

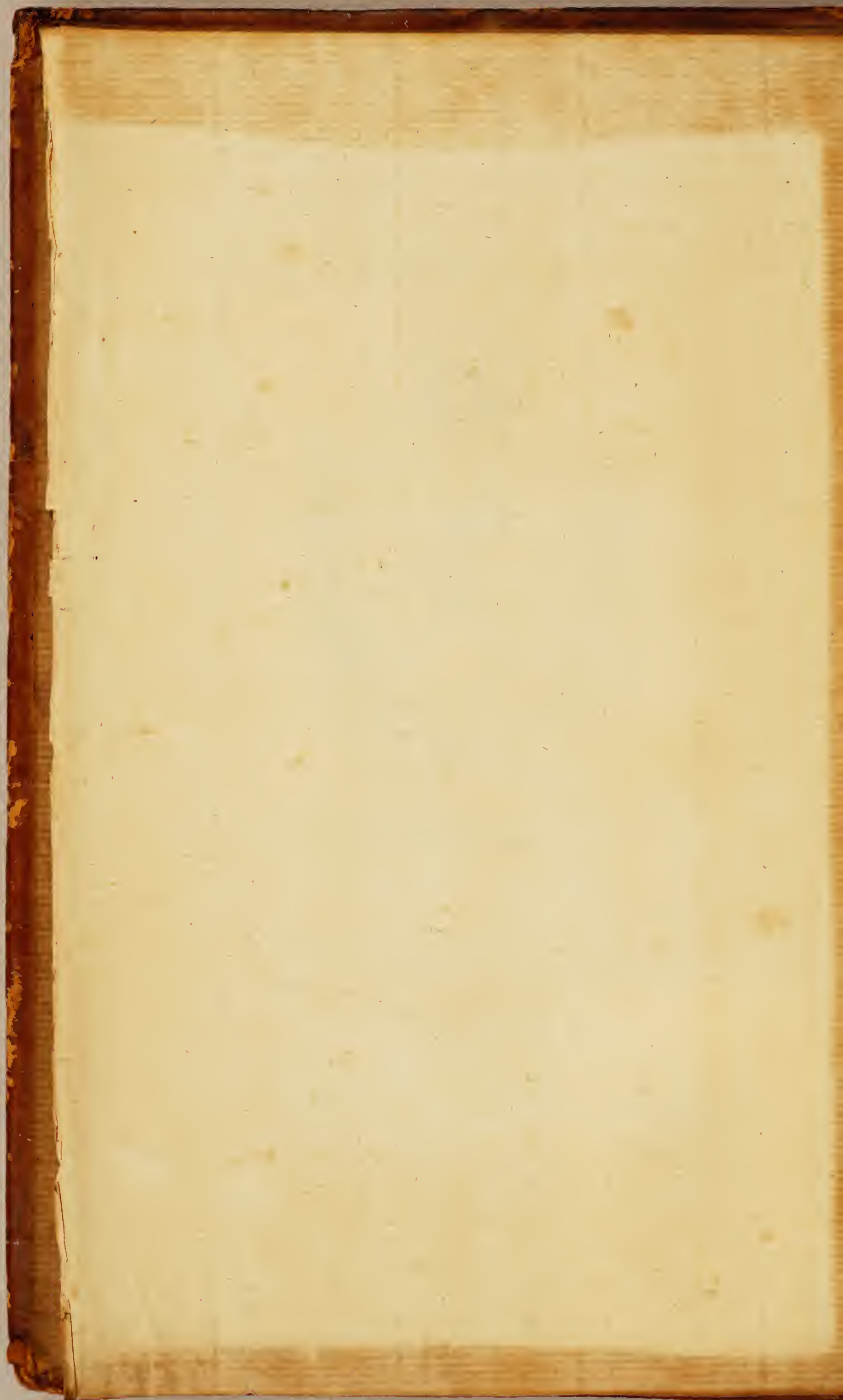
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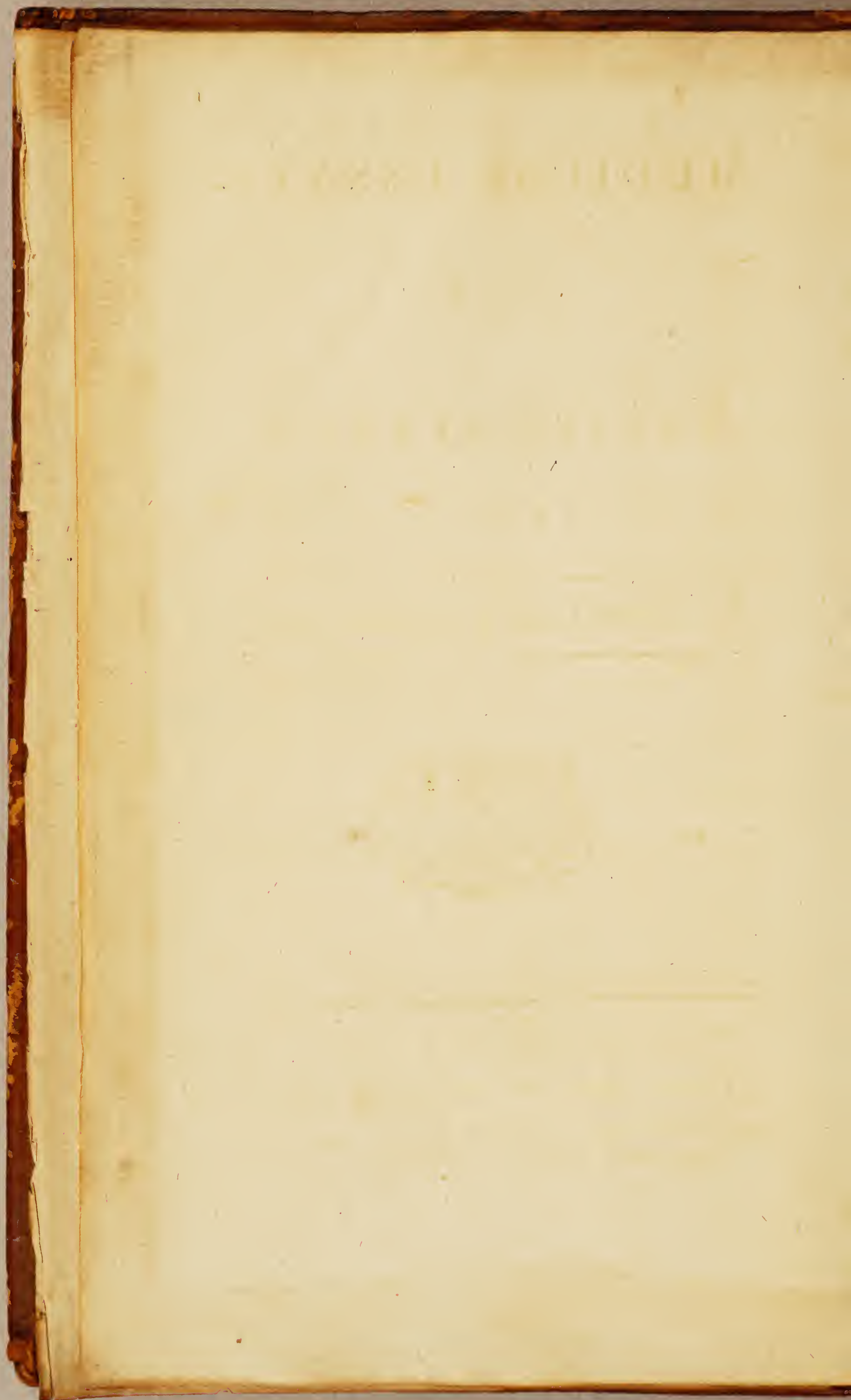


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MEDICAL ESSAYS

A N D

OBSERVATIONS.

By CHARLES BISSET, M. D.



NEWCASTLE UPON TYNE:

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THE HISTORY OF THE

1787

OF THE

REIGN OF
GEORGE THE THIRD
FROM 1760 TO 1800
BY
JAMES O'BRIEN
ESQ.
OF THE BARR

RPJCB

T H E

P R E F A C E.

NOtwithstanding the multiplicity of books that have been writ on the Practice of Physic, and tho' many of them are the product of the assiduous labours of Physicians of great experience and accurate observation, yet it will readily appear to every Physician who is conversant in practice, that the Medical Art is still remote from perfection: Indeed, there is abundant

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P R E F A C E.

reason to believe that it will always be deficient in several essential points ; since it too often happens that when nature stands in most need of our assistance we can aid her the least ; particularly in the most malignant fevers, the glandular pulmonary consumption, the cancer, and many other diseases. The Healing Art would, doubtless, have been much farther advanced towards perfection, than it is at present, if the most able and experienced Physicians, in different ages, and climates, had taken the trouble to favour the public with

P R E F A C E.

with such of their observations as were conducive to this important end: But many of the most eminent Physicians have been remiss in this particular; either from indolence, or a hurry in business, or an opinion that their writings could give no additional lustre to their distinguished characters, or might expose them to the sarcasms, and false and superficial criticisms of little envious critics: Regardless of these, I humbly present the following essays and observations to the public, purely from a desire of contributing
my

P R E F A C E.

my mite towards the improvement of medicine; and I cheerfully submit them to the test of candid and judicious criticism, that their imperfections may be pointed out; which is agreeable to the great end of advancing the improvement of true medical knowledge.

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Page 17. l. 6. for effects, read effect.—Page 56. l. 20. for proper,
read prosperous.—Page 70. l. 9. for onpeing, read opening.—Page
92. l. 24. for Patelli, read Patellæ.—Page 215. l. 15. for cction, read
action.—Page 253. l. 8. for ζ read ζi .

MEDICAL ESSAYS

A N D

OBSERVATIONS.

I. *The THEORY of the periodical SEA and
LAND BREEZES in hot climates.*

THE Sea Breeze is a continuation of the Trade-wind, which, according to the celebrated Dr Halley's Hypothesis, is determined to the Land, in consequence of the more considerable rarefaction of the lower air next the ground, particularly in low plains and valleys by means of the reflected solar rays, and the great degree of heat which the earth acquires by the Sun's influence; the lower land-air, thus highly rarefied, necessarily ascending to a higher region of the atmosphere, while the sea-air, which is more cool, dense and heavy, rushes to the land so as to maintain an equilibrium: an effect similar to that of

a culinary fire, which occasions a draught of air from the door, or other inlet, while the rarefied air ascends by the chimney. This hypothesis is sufficiently rational; but the nocturnal Land-Breeze has not been rightly accounted for by any author that I know: Its physical causes should seem to be the following.

THE ground of low plains and valleys by the sea-coast, acquires a great degree of heat from the sun, during the day, which it retains for some hours after sun-set; as is manifest by the great heat of the air of these low grounds in the evening calms, which far exceeds the heat of the sea-air at the same time. For the heat acquired by bodies, from the solar rays, is in proportion to their densities, and is much longer retained by dense than rare bodies. 'Tis also well known that bodies are heated in a greater or less degree by the sun, in proportion as they are less or more elevated above the level of the sea, or according as their incumbent air is more or less dense and heavy. Now the tops of mountains, and other high land having, in the course of the day,

day, acquired a much less degree of heat from the sun, than the earth of low plains and valleys, the incumbent air of the former soon grows cold, dense and heavy, after sun-set, and consequently presses upon the warmer and more rarefied air of the lower lands by the sea-coast; upon which this rarefied air necessarily ascends, and gives place to the former, which swiftly intrudes to maintain an equilibrium; and thus produces a cool Land-Breeze; which commonly reaches about three miles from the coast, because the sea-air, tho' less warm and rare in the evening, than the air of low land, is yet more so than the air of the high inlands.

THIS nocturnal Breeze is continued by the rarefying power of the heated earth of the low plains and valleys towards the sea-coast: It commonly increases till about one or two in the morning, because the acquired heat of the high lands recedes faster than the heat of low grounds after sun-set; and, after the hours of one or two in the morning, this Breeze generally begins to decline, because the earth of the low lands toward
the

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the coast begins, about that time, to cool a-pace.

As the Land-Breeze blows from the body of an island to its circumference, it must needs be maintained by a constant supply of air, which doubtless tends from an high region of the atmosphere of the ambient sea to the tops of the high land, in proportion as the condensed air of such high land subsides, and is determined to the surrounding coast; thus maintaining an incessant circulation of air, which is reversed on the commencing of the Sea-Breeze.

Of the WEST INDIAN AIR.

THE weather at sea, and remote from the continent, in the West-Indies, is generally uniform as the trade-wind. An almost uninterrupted series of dry weather reigns upon the face of the ocean throughout the year; the air is clear, heavy and elastic, and the clouds are exceeding high, thin and white; and the constant and almost uniform pure humid exhalation from the sea, in concurrence with the incessant

cessant trade-wind, renders the sea-air agreeably refreshing, and exceeding salutary.

UPON land, the weather is very different in different places; yet each place has commonly pretty regular annual returns of the weather that is peculiar thereto in the different seasons. In general, there is frequent rain in summer and autumn, but the winter and vernal months are dry.

THE quantity of rain that falls, in any particular place, is generally greater or less, according as it is more or less woody and marshy, or nearer to, or more remote from woody mountains and the sea; or as it is more or less confined by surrounding woody mountains, and liable to calms; or according as the ground, over which the nocturnal and diurnal breezes blow in their course thereto, is more or less woody or marshy.

THE atmosphere of the sea and sea-coast is very seldom or never obscured with very dense humid fogs; and large dense black clouds do rarely appear therein; these being
pre-

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prevented by the brisk and almost constant breezes, the gravity and elasticity of the atmosphere, and the intense solar heat. Yet a thin white haze generally floats in the lower air over the land, so as often to hinder its being descry'd from any great distance at sea; especially in a long summer drought, and when the sea-breeze is strong. As the lower air is very dry when that haze is most conspicuous, it should seem to consist chiefly of saline, oily, resinous, gummous, and other dense and viscid particles, which may be raised to a small height in the atmosphere by the intense solar heat, joined with the brisk sea-breeze.

THE abundant vegetable and mineral acids, and that of sea salt, that are exhaled in the Torrid Zone, and contribute not a little to the formation of the abovesaid haze, do occasion a very speedy erosion of iron, that lies exposed to the air, especially on the sea-coast; even silver, keys, and the blades of knives in people's pockets are thereby quickly tarnished. Now since a strong acid is so prevalent in the West-Indian air, throughout the year, we may rationally conclude,

clude, that malignant epidemic diseases, in the Torrid Zone, are not excited by any putrid Fomes in the atmosphere.

THE dews are pretty heavy on the sea-coast during the rainy season, and chiefly in the months of May and June, when these are showery, and the grass and other vegetables are succulent, and vegetation is vigorous; but little or no observable dew falls upon the low land by the sea-coast during the dry season; that is, betwixt the end of October and the vernal equinox.

IN high woody inland valleys among the mountains, the air is much cooler than towards the coast, or in low plains and valleys. In those high valleys, the winds are irregular, and often faint: and there is frequent rain, and an abundant humid exhalation, which, being condensed by the coolness of the nights, produces very dense and wet nocturnal fogs, which often suffer two or three hours of the morning sun before they are dispersed.

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AT Jamaica the solar heat, when the North wind does not blow, is very little less intense, betwixt the hours of twelve and four in winter, than in summer; which therefore must then exceed the usual degree of the summer heat at London, notwithstanding the sun is forty-one degrees to the southward of Jamaica in the winter solstice, and twenty-eight degrees only from the latitude of London in the summer solstice; and tho' his absence, in the nights, at these times, is considerably longer at Jamaica, than London. This is probably occasioned by the spheroidal figure of the earth, which, being flattened toward the poles, must cause the solar rays to fall much more obliquely on its surface in northern and southern climates, than between the tropics. But the evenings and mornings are generally much cooler at Jamaica in winter, than in summer.

THE intense solar heat, and the brisk sea-breezes, in the West-Indies, do raise an immense watery exhalation from the surfaces

faces of the sea and land ; yet, as the humid vapour is quickly and highly rarefied, and swiftly ascends, and is raised to a great height in the atmosphere, the lower air continues, notwithstanding, very dry, in drougthy weather ; when wet linen exposed to the open air becomes speedily dry and rigid, both at sea and land. In woody places, during the rainy season, and for some time after the falling of much rain, the exhalation from the land will exceed that which is raised at the same time from an equal portion of the surface of the sea : But countries that are pretty clear of wood and marshes, and have a dry, sandy, or gravelly soil, with the under-ground water at a good distance from the surface, will yield very little humid exhalation in the dry season, or at any time when the weather is very dry. In such places, unless they lye contiguous to the sea, the air, on the other hand, is often rendered unsalutary by being too dry and scorching. Hence it appears that the land-air, in the Torrid Zone, is far inferior to the atmosphere of the sea in point of salubrity ; the first being common-

ly either too moist, or too hot and dry, or vitiated by noxious vapours; but the last is generally impregnate with a salutary degree of pure moisture, which, in concurrence with the continual brisk wind at sea, and the reflection of much fewer of the solar rays from water than earth, greatly moderates the sultry heat, and prevents the skin, and the internal surfaces of the bronchia and pulmonary vesicles from being greatly parched, and the blood and subcutaneous fat from being much injured by the heat of a vertical sun. In February 1744, the weather being dry, I exposed some salt of tartar in the piazza of the surgery at the late naval hospital at New-Greenwich in Jamaica, and it remained, as near as I can remember, (for the paper is lost in which the result of this experiment was noted) from ten in the morning till four in the afternoon, without imbibing any manifest moisture, tho' the surrounding ground within the square of the hospital was a grass-plot.

Of

*Of the common external causes of HEALTH,
and endemic DISEASES, in the West-Indies.*

THE sea-breeze is free from noxious vapours, and is generally dry, or fraught with only a salutary degree of pure and imperceptible moisture. It changes foul and unwholesome land-air, and temperates the scorching solar heat. Very small islands that have a dry soil, are pretty clear of wood, and remote from the continent, and continually fanned by the sea-breeze, or trade-wind, are the most healthful spots in the West-Indies, provided they afford good water. In Jamaica, those places, *cæteris paribus*, are the most salubrious that have the sea-breeze immediately from the sea, before it blows over any other land. Yet this breeze is in a great measure destructive of health, in places lying within a mile to leeward of marshes, by conveying to such places the humid and other noxious vapours that are abundantly exhaled from the marshy ground, particularly in very dry

dry weather in the autumnal months. But these bad effects of it are few, and accidental, while its good effects are great and extensive, both with regard to health and commerce; and 'tis, doubtless, a much less evil even in the abovesaid circumstance, than if such places to leeward of marshes were exceedingly scorched, and their atmospheres rendered foul and highly noxious in consequence of perpetual diurnal calms.

THE nocturnal land-breeze comes cool from the woods, and high inlands; and is fraught with dense vapours, and other unwholesome effluvia, from marshes, animals, putrid substances, vegetables, and minerals; producing sudden and dangerous effects in persons who lye much exposed thereto; both by its extreme coolness, in comparison with sultry heat in the day-time, and by the abundant humid and other noxious effluvia it carries along with it: And as both these causes diminish as this breeze recedes from the land, the places it gently fans after blowing over a great harbour, or inlet of the sea, as at Port-Royal in Jamaica, will be
very

very little influenced by those causes of indisposition. The same holds true with regard to ships that lye above a mile from the shore. But as the land-breeze also, doubtless, carries with it some salutary particles, chiefly from acid fruits, and aromatic vegetables, and is infinitely preferable to a warm, moist, foul, stagnant air, particularly in low unhealthful land ; and is of singular service to navigation and commerce ; so its good effects do over-balance the bad ones which necessarily attend it.

THE nocturnal air at sea, without the reach of the land-breeze, or in the skirts of it, being pure as the diurnal sea-breeze, and only a little moister ; and the difference betwixt the heat of the air in the day-time, and its coolness in the night, being much less at sea than a-shore, mariners seldom suffer any injury by sleeping between decks, with the ports open, or even upon the upper deck, in the night, at sea, or lying in a bay, or large harbour, at a good distance from the shore.

D R Y

DRY sandy, or gravelly ground, contiguous to the sea-shore, if remote from marshes and mountains, and pretty clear of wood, is very salubrious, especially if the under-ground water lies not very near the surface; the few noxious vapours that may thence be raised by the intense solar heat being quickly dispersed, and carried off by the sea and land-breezes. In such places, a long course of dry weather will have no bad effect, but, on the contrary, will be salubrious; because their atmospheres will be rendered temperate by the sea-breeze, which carries with it a salutary degree of pure moisture, impregnated with some particles of sea-salt, which are raised and transported to a considerable distance by the brisk sea winds. Neither will a long course of rainy weather be productive of much indisposition at such places; because the moisture which thence results is less apt to putrify in sandy, than in fat clayey grounds; and it never lies long on the former, but is soon carried off by absorption and exhalation. Yet while the rains continue,

tinue, and till the ground is quite dry, the great moisture of the air, in concurrence with the solar heat, will relax the habit, and create a tendency to remitting, and intermitting fevers, and fluxes; which, however, as they result, in this case, from pure moisture, will be less obstinate and fatal than such as are generated in most other places, at least in those to leeward of marshes. These facts were sufficiently verified at Port-Royal, and New-Greenwich, in the former war. But sandy ground, in the aforesaid circumstance, is never subject to much rain, provided it lies remote from the continent.

IN such salubrious places, the other general outward causes of indisposition are the following. 1. A long calm, such as sometimes happens after a hurricane. 2. The morning and evening calms. 3. The faint and often intermitting breezes peculiar to the month of August. 4. The chill North winds that often blow in the winter months, supplanting both the quotidian sea and land breezes. 5. The daily transitions from the sultry diurnal heat to the coolness
of

of the air at nights, after the commencing of the land-breeze. But, as such healthful places are not subject to noxious effluvia, the diseases produced by these causes, in such places, will not often, at least in natives, and seasoned Europeans, have a great degree of malignity; especially if the salubrious place is not only circumstanced as above-mentioned, but is so situate as to be but gently fanned by the land-breeze after blowing over an inlet of the sea, as at Port-Royal in Jamaica (*a*); which very much lessens the difference betwixt the diurnal heat and coolness of the night, and consequently exempts it from the principal cause of

(*a*) THO' the land-breeze seldom reaches above one league from the coast, yet it is continued, at Port-Royal, to double that distance; blowing to that place, from the New-Greenwich Shore, over six miles of the sea in the harbour. That breeze is here attracted chiefly by the rarefaction of the lower air of the neck of Land upon which Port-Royal is situate, in consequence of the acquired heat of the dry sandy ground, which it retains for some hours after sun-set. This circumstance should seem to be a confirmation of our theory of the land-breeze.

of dangerous remitting and intermitting bilious fevers.

HIGH inland valleys subject to wet nocturnal fogs are, notwithstanding, pretty healthful, provided the ground is dry, and not very woody; because the relaxing effects of the nocturnal moisture is in some measure counteracted by the coolness of the air peculiar to such places.

HEALTHY persons have a more constant and uniform flow of good spirits in the West-Indies, than in Great-Britain; especially after being seasoned to the hot climates; and they seldom become faint and low-spirited, from the sultry heat, (except sometimes in the morning calm, when the sea-breeze sets in later than usual); because the lower air, at least in salubrious places, is commonly dry, pure, heavy, and elastic; and the perspiration is constantly free, copious, and nearly uniform, in the days and nights, throughout the year; except in persons who, in aguish places, are contracting intermittents. Healthy Europeans ge-

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nerally eat as much fresh animal food, and have as quick a digestion, in healthy places in the Torrid Zone, as in temperate climates; the body, by reason of the great expence of juices, by perspiration, in hot climates, requiring a copious supply of nourishment.

SEVERAL particulars relating to the subject of this essay are inserted in two former publications (*b, c*), wherefore I shall here omit them. It is, however, proper, before proceeding to the description of the West-Indian Bilious Fever, to give a general idea of the common outward predisposing cause of that malignant disease.

I HAVE observed in a former work (*d*) that the bilious disposition is most prevalent,

(*b*) BISSET on the Scurvy.

(*c*) Candid and satisfactory answers to the several criticisms of the Critical Reviewers, on an Essay on the Medical Constitution of Great-Britain, &c.

(*d*) Essay on the Medical Constitution of Great-Britain, &c.

ent, and the true inflammatory least so, in the end of July, and in August, in Great-Britain; particularly when the weather in that period is dry and sultry, with southerly and westerly winds; and that the blood, in general, is then thinner, and more rarefied, and less apt to become sily, than at any other time in the year. Now the recession of the true inflammatory disposition, and the increase of the bilious, do necessarily take place, in a much greater degree, in consequence of the great transition from a cold, or temperate air, to the heat of a vertical sun; by which the solids are greatly relaxed, and the blood becomes highly rarefied, and specifically lighter. Hence it is, that Europeans, in the West-Indies, more especially such of them as live on ship-board, (where the difference betwixt the heat of the days and coolness of the nights is less than on shore) are in a great measure exempt from the inflammatory diathesis; and that British strangers, in the Torrid Zone, are very subject to obstinate and fatal bilious fevers. Indeed the bilious disposition is so prevalent, in such strangers,

gers, in the West-Indies, that if a fever attacks them from any adequate cause whatever, it will generally assume the form of a true malignant bilious fever, or of a dysenteric bilious fever.

IV. *Of the* WEST-INDIAN BILIOUS FEVER.

HAVING had the best opportunities, during the first four years of the former war, of being thoroughly conversant with the bilious fever, in the West-Indies, I flatter myself that the following narrative of it, which is extracted from a great number of accurate histories of different Patients, will not be unacceptable to the public.

THE ardent bilious or yellow fever, incident to unseasoned Europeans, in the West-Indies, begins and proceeds in the following manner. — Frequently, for some days before the onset of the fever, particularly when it is not excited by some great ex-

excess, or irregularity in living, the party is heavy, inactive, and low-spirited; his sleeps are unsound; he has a palled appetite, joined with a sense of load and oppression at the stomach; his face is paler, and he sweats less freely than usual; the prickly heat disappears, or is fleeting and imperfect; and sometimes he complains of wandering pains, or pain in the loins, or a slight head-ach. At length he is seized with a sense of chilliness, which soon gives place to an ardent fever, attended with burning heat, which is commonly most intense in the fore-head, and at the præcordia; a dry parched skin; a pretty full, quick, somewhat tense, and pretty equal pulse; a flushed countenance; redness of the white of the eyes; a violent head-ach; pain in the loins; flying pains, or a sense of soreness all over; sickness, or great oppression, or anxiety at the præcordia; great thirst; constiveness; high-colour'd transparent urine; frequent jactation; and watching, or turbulent and unrefreshing slumbers: The tongue is covered with a clammy moisture, and seldom much discoloured, or only a little

tle whitish in its middle portion ; and the respiration is commonly a little accelerated, but generally pretty free.

M O S T commonly soon or late before the end of the first day of this vehement fever, and sometimes soon after the accession of the antecedent chilliness, a nausea comes on, with extreme sickness, which soon induces violent and long-continued retching, and a copious ejection of green bile. This vehement vomiting generally recurs at short intervals, and an incredible quantity of bile is sometimes thrown up in a few hours ; and sometimes, but seldom, it is voided by stool. The patient's thirst is now unquenchable ; and whatever he drinks is almost instantly thrown up.

SOON after the accession of the vomiting, if frequent and violent, the patient becomes at once feeble and low-spirited ; the febrile heat grows more moderate, and the tongue somewhat moister. The pulse is often small and irregular during each fit of vomiting, and for a short time after ; but, in the
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intervals of vomiting, it is often pretty full and equal, but weaker, softer, and less quick than it was during the first, or ardent stage of the fever. The urine thickens, and lessens in quantity; the great anxiety at the præcordia, and consequent jactation are often incessant, and sometimes the anxiety abates or remits after each fit of vomiting. In some few cases, in the first stage, or soon after the vomiting begins, the patient is seized with a profuse hemorrhage from the nose or fuces, often joined with a phrenzy.

TOWARDS the end of the third day, the slight ophthalmia, or redness of the conjunctive tunic of the eyes commonly disappears, and is succeeded by a yellowish tinge of that tunic; the head-ach at the same time ceases, or abates, and the face grows pale, or a little yellowish. The skin is commonly still dry and parched; yet now sometimes a clammy sweat or moisture is forced by the vehement and frequent retching, which, however, gives no relief to the patient. The vomiting continues; the fever sinks; the strength decreases; the
tongue

tongue again becomes less moist, or somewhat dry, and brownish in its middle; there is sometimes a sense of great heat at the stomach and præcordia; the urine grows thicker, and of a darker red, and sometimes appears as if it were tinged with blood; but the respiration is yet generally pretty free.

ON the fourth day the white of the eyes reflects a pretty deep, and the skin a light yellowish hue; the urine is of a dark red inclining to yellow, and sometimes tinges linen yellowish; and the face is of a pale, or dun yellowish hue, with a dejected aspect; the febril heat ceases, or is much decreased at the præcordia, and the native heat is remiss in the extremities; yet the pulse is still often pretty full and equal in the intervals of vomiting, and the patient, in these intervals, has sometimes no sort of complaint. He commonly still vomits every thing he ingests, but not much bile, which is now oftener voided by stool. The epigastrium, and right and left hypochondria, but most commonly the first and second

second of these regions, do now, for the most part, become tense, a little tumefied, and affected with some pain, which is most acute when the patient vomits, or when the epigastrium is pressed with a finger, which feels tense and elastic, not hard: This symptom, which is commonly also attended with a sense of great inward heat, accedes sooner or later according as the vomiting is more or less violent and frequent, and more readily happens, and is worse with a costive than loose belly. It is an effect of the vomiting, and very rarely or never happens till the vomiting has continued some time.

IN the end of the fourth day, or on the fifth, thin black blood, in many cases, begins to ooze from the gums, or from the salival ducts, and sometimes, but seldom, blood is vomited, or voided downwards; that which is voided by stool being mostly coagulated, if copious from a ruptured vessel. If the patient has been blistered, the excoriated portion of the skin now also begins to discharge some thin black blood; and the

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symptomatic jaundice increases apace. The tongue is now dry, and of a dark-brown or footy colour, at least in its middle portion, chiefly from the oozing blood; the drought is greatly decreased, or the patient drinks not in proportion to his apparent thirst; and the pulse is weak, soft, small, and unequal; he grows demure, and seems at times insensible, or is inattentive to questions that are asked him, and has a heavy confused aspect, sometimes like one that is drunk. The native heat is much decreased; the skin is now sometimes bedewed with a clammy moisture, at least on the trunk of the body; and the urine is thick and scanty, and of a dark muddy bilious colour, and stains writing paper yellow.

AT length the pulse becomes exceeding small, weak, and unequal; a hickup sometimes comes on, and sometimes a starting, or trembling of the body, or of the limbs, muscles, or tendons; the vomiting and thirst, and the pain in the epigastrium and hypochondria cease; the urine and stools are voided insensibly in bed; and the patient,

tient, hitherto sleepless, restless, and for the most part pretty sensible, becomes comatose, with cold extremities, and cold clammy sweats, and a very small pulse: Sometimes the pulse, and the native heat of the trunk of the body increase a little under the coma, which soon terminates in a spurious apoplexy, under which the patient lies supine, with his arms and legs extended, cold and motionless; and with an exceeding small and scarce sensible pulse, laborious stertorous respiration performed with a wide open mouth, great and unusual motion of the chest, and of the alæ of the nostrils, and a tremulous convulsive motion in the epigastrium; and generally about the sixth hour of this spurious apoplexy, and in the end of the fifth day, or on the sixth from the beginning of the fever, the patient expires.

SOMETIMES the spurious and fatal apoplexy invades without any antecedent coma; sometimes it is preceded by a delirium; and sometimes, but seldom, by a phrenzy; at other times, but more frequently

quently in the second species of the bilious fever, it supervenes a short remission of the fever; and in a few cases the patient is carried off by an unexpected syncope.

WHEN the fever exceeds the fifth day, it has commonly quotidian exacerbations and remissions, the former being usually nocturnal: But when it destroys the patient before the fifth day, the exacerbations and remissions are seldom manifest, especially if the patient vomits whatever he ingests: And when the disease is soon fatal, the febril heat often continues till the accession of the spurious apoplexy.

THO' this is the most common course and duration of the ardent bilious fever, when fatal, yet it often varies in different persons, chiefly in the duration, and times of accession of the several forementioned principal symptoms: For it sometimes runs through its several stages, and proves fatal in one, two, three or four days; and in one case that fell under my observation, it de-
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stroyed the patient in seven hours (*e*). It is often, under particular circumstances, very fatal, carrying off four or five in seven whom it attacks ; and sometimes, but seldom, it is so favourable as to carry off only one patient in five or six.

WERE this disease to be divided into stages, according to the remarkable and different appearances it assumes at different times

(*e*) IN August, 1742, A carpenter belonging to the Kent man of war, then lying in Port Royal harbour, being very much heated by working hard on a ship's side and exposed to the sun in the morning calm, drank about three pints of cold water ; upon which he instantly became dull, feeble, and stupid, and soon after apoplectic. The apoplexy was attended with laborious respiration, a rapid and pretty full and tense but somewhat unequal pulse, and a tremulous motion of the whole body, but chiefly of the muscles of the chest, arms and shoulders. He had a flushed countenance, with redness of the white of the eyes, and an exceeding hot and dry skin ; but the heat was most intense in the breast and forehead. Thus he remained till the fourth hour, when the abdomen began to swell apace, and much green fetid bile was voided by stool. Then the tremulous motion began to abate ; the pulse became smaller, weaker and more unequal ;

some

30 MEDICAL ESSAYS

times in its progress, we might therein enumerate seven; viz. 1. From the commencing of the antecedent slight indisposition to the recession of the chilliness. 2. From the beginning of the ardent fever to the accession of the vomiting, or to the decrease of the febrile heat. 3. From thence to the invasion of the symptomatic jaundice, and the recess of the head-ach, and slight ophthalmia. 4. From thence to the approach of the symptomatic oozing of blood, and final extinction of the febrile heat. 5. From thence to the accession of the coma, and de-

some faint vibices began to appear on the skin, which was still dry and hot; the patient vomited about a quart of water and serous humour; a spurious apoplexy commenced, with an exceeding small, weak and unequal pulse; and in the seventh hour from the attack of this most acute disease the patient expired. It was remarkable, in this case, that a great degree of heat was retained in the thorax, and the epigastrium and hypochondria, chiefly on the left side, above an hour after death; and the trunk continued warm for some hours after that. This body became very livid, chiefly in its most depending parts, as soon as it began to cool. The blood which was drawn off at the onset of the disease, to the amount of eight ounces, was florid, with a somewhat lax coagulum, and a very small proportion of serum.

decrease of the native heat. 6. From this to the attack of the spurious apoplexy. 7. From thence to the article of death.

IT is most commonly in this ardent species of the bilious fever that coffee-ground-like humour is vomited, tho' it is not mentioned in the foregoing narrative, because it is an extraordinary symptom, scarce happening to one patient in fifteen who die of the bilious fever. It consists of a multitude of small particles resembling coffee-grounds, blended with a chocolate-coloured humour. This humour is vomited generally about seventeen hours before the article of death; and is most probably produced by oozing blood blended with some vitiated gastric juices, which remain in the stomach till they acquire the abovesaid aspect.

I HAVE bled a great many patients in the beginning of the ardent bilious fever. The coagulum is always florid and uniform a-top, and sometimes pretty firm, but for the

the most part of a somewhat soft or lax consistency, and always yields a very small proportion of serum. The serum is at first of a light red colour, and, after standing some time, it deposits a multitude of very small red globules, resembling vermilion, and then becomes yellowish.

THE body, immediately after death, becomes livid, or purple, or is marked with large purple or livid blotches; and these vibices are generally most prevalent in the most depending parts of the body; and sometimes, but very seldom, some faint vibices appear a little before death.

THE sooner the disease proves fatal, the more intensely livid or purple, and extensive, generally are the vibices, and the more light the Jaundice; at least with regard to the latter.

THE sooner the jaundice and oozing of blood commence, the greater is the danger, and generally on the contrary: And if these first accede on even days, the event is still more likely to be unprosperous.

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IF the fever ceases, or remits, together with the most urgent symptoms, without a moist skin, or any other sign of a present, or an approaching salutary crisis; the patient being heavy and low-spirited, with a pale countenance, but without any complaint; this flattering truce is greatly to be dreaded, especially if it happens on the fourth day, even tho' the pulse be seemingly pretty good, and tho' the patient should eat with a seeming appetite, since the next paroxysm, or exacerbation, commonly personates a spurious and speedily fatal apoplexy.

BUT if the patient has few or no spontaneous loose stools, and vomits not, or only in the beginning of the disease, nor has any considerable anxiety at the præcordia; and the fever proceeds with a pretty full, equal, free, and not very quick pulse; and the yellowness is scarce conspicuous before the seventh day, the disease will then generally be free from danger: And if, on the seventh day, the patient has a moist skin, with some loose bilious stools, and a smooth,

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compact and scanty whitish or yellowish sediment in the urine, the disease will then at once terminate by the most perfect salutary crisis; provided the patient breathes a wholesome unaguish air. But if the patient's skin, after the accession of the critical jaundice on the seventh day, continues dry, and he has no gentle bilious diarrhœa, and the urine is high-coloured and bilious, without a sediment, he is sometimes relieved by a spitting of thin black blood, which oozes from the gums by transcolation, and is also partly transmitted by the salival and mucous emissaries. In this case, the patient grows exceeding yellow in the course of the bleeding, the skin being still dry: At the same time also a thin black blood oozes from any portion of the skin that has been blistered during the fever, after which it ulcerates, and yields an abundant purulent discharge, which, in this case, is very serviceable; and the patient remains a long time in a convalescent state. But if the patient, in the circumstances last mentioned, has little or no critical oozing of blood, he is sometimes relieved by a large phlegmon, and its consequent

quent discharge; and sometimes an imperfect crisis is followed by a few gentle quotidian paroxysms, which, in dry salubrious air, soon terminate in health; but in aguish places, this disease is apt to degenerate into a malignant remittent, or intermittent, which commonly terminate either in death, or in a cachexy that is incurable, at least in the West-Indies.

THE critical jaundice is generally of a deeper yellow than the symptomatic: It gradually disappears in seven or eight days after the crisis. The pain and tension in the epigastrium and hypochondria do also soon recede after a salutary crisis. It is remarkable, that a wound in the skin, immediately after a salutary crisis, if the party is yellowish, is followed by an hæmorrhage of thin blood, which is not easily restrained; and that he is not greatly weakened by a pretty considerable loss of blood from an accidental or spontaneous hæmorrhage after the crisis, the loss of which before that period, or after the accession of vehement vomiting, would have occasioned the utmost danger.

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THE second species of the bilious fever begins and proceeds nearly in the same manner as the first or ardent sort, from which it differs only in the following particulars. The fever is less ardent; the vomiting recurs at longer intervals, and sooner ceases; wherefore there is more time and opportunity for the exhibition of medicines in this, than in the ardent and most acute species. In this too there is a greater propensity to sweating, than in the first; but the sweats are commonly forced by violent vomiting, and afford no relief to the patient; whence it appears how little we are to expect from the use of sudorifics in this disease. This fever is sometimes quite low, resembling a slow malignant nervous fever. It sometimes also appears in the form of a remittent; but in that case the exacerbations are often vehement; and it is commonly of longer duration than the first species, being sometimes protracted to the fifteenth day; for the most part, however, it proves fatal, or terminates by a final salutary crisis, or begins to decrease before the eighth day. It

It is observable in this species, that the symptomatic icterus, when it happens to be supervened by pretty copious symptomatic sweats, gradually disappears in the course of the sweating, but without giving the patient any relief, unless its decrease be attended with other favourable symptoms.

THE third species of the bilious disease can scarce, with propriety, be termed a fever. The patient sometimes vomits bile, and sometimes he does not, but retains whatever he ingests. He has a pale aspect, is feeble and low-spirited. He is seldom confined to his bed, but often walks a little about, and seems like one in a deep melancholy. The native heat gradually decreases, and the circulation becomes languid, till the blood thickens, or begins to coagulate, upon which the circulation ceases, and the patient drops down and instantly expires; the face having a pale livid aspect, and the lips and nails growing livid, as in the cold fit of an ague, some short time before the article of death. Sometimes, however, death
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is preceded by a spurious apoplexy, as in the two former species. This disease, which seldom occurs, is most incident to unseasoned sailors, who become greatly dejected, and almost melancholy, after being newly impressed.

IT is observed in the foregoing, that the common outward predisposing cause of the bilious fever consists in the great transition from a cold or temperate climate to the Torrid Zone; which in a great measure destroys the true inflammatory disposition, and is productive of the bilious; in so much, that any cause whatever, that is sufficient to excite more or less of a fever, will, in that circumstance, give rise to a bilious fever. Wherefore unseasoned strangers, or such Europeans as have not lived a year in the West-Indies, should be careful to avoid intemperance, (unless they have been accustomed to hard drinking) or any great irregularity, or whatever is apt to excite more or less of a fever.

THO' the bilious fever never attacks a
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patient under a manifest muriatic scurvy, yet those who are under some degree of a scorbutic cacochymy, at their arrival in the West-Indies, and convalescents, are most susceptible of this fever, and of the most malignant, or insuperable attacks of it: The preservation of people on ship-board, from this fever, will therefore depend very much on the prevention of the scurvy, which is specified in my treatise on this chronic disease (*f*).

THIS fever is always most universal and fatal among ship's-crews, and soldiers, on ship-board; but chiefly among the latter, when much crowded in transport ships that are low between decks, and badly aired. The fatality and universality of the bilious fever, in this circumstance, may be supposed to be owing partly to more or less of an antecedent scorbutic taint, but chiefly to its being combined with the jail fever, or aggravated by some degree of the proximate cause

(*f*) Bisset on the Scurvy, chap. 3.

cause of the last mentioned disease; and as the sicklyness of a numerous ship's-crew increases, this auxiliary cause will be proportionably increased. Wherefore nothing will be more conducive towards preserving the healths of ship's-crews, and preventing the frequency and great fatality of the bilious fever, in the West-Indies, than cleanliness, both with respect to the ship and the company; having the decks high; the company rather small in proportion to the size of the ship, or of the space between decks that is inhabited; and in having such places of the ship as are badly aired often ventilated, or correcting their air in ships unprovided with a ventilator. In the West-Indies, however, ships in general, particularly men of war, are much better aired than in Northern climates, where the stormyness, or coldness of the weather, renders it absolutely necessary to keep the ports shut, and often also to cover the hatchways as close as they can be suffered; wherefore the outward cause of the jail fever can hardly be generated on board a ship of war, in the West-Indies; except when the crew is sickly,

ly, or sometimes in the fore-part of the lower gun-deck at sea (*g*).

Dr Hillary affirms, that he has discovered an infallible method of curing the bilious fever; which consists in abating the too great heat and violence of the fever, by drawing off a pretty large quantity of blood, then washing the stomach with warm water, as is directed by Riverius in the Cholera Morbus; then giving a full dose of Opium or Extr. Thebaic. to restrain the vomiting, and procure sleep; after that expelling the putrid bilious humour, in the alimentary tube, by lenient laxatives; and, in the intervals of purging, resisting the putrid tendency of the juices, by mild cordial diaphoretics and antiseptics; these last consisting almost wholly of infusions of snake-weed roots, and saffron; and of Madeira wine, elixir of vitriol, and lemon juice, properly diluted. The Doctor made trial of the Cortex Peruv. but finding the patient could

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(*g*) See the introduction to the aforesaid Treatise on the Scurvy.

not keep it on his stomach, by reason of its disagreeable taste, he laid aside all future attempts to give it, and substituted the Rad. Serpent. in its room. “The Doctor affirms, “that this procedure has been so successful, “that but two patients died, under his care, “in this fever, during eight preceding years “in which he had treated it in this manner; tho’ he had visited several every “year, and in some years many; and one “of these unfortunate patients was so weak “(I suppose before the Doctor was consulted) that he could not take a spoonful of “any thing; and so near his end that he “died about two hours after, without “taking any medicine; and the other killed “himself by drinking a gallon of cold water, (after taking half an ounce of manna “in the morning) which struck such a coldness into his body, that he died (*b*).”

THIS procedure, which is far from being new, was often practised in the former war,

(*b*) Hillary on the air and epidemic diseases in Barbadoes, page 179.

war, but it did no service in malignant cases. In truth, in many cases of this disease, little or no benefit can accrue from the use of internal medicines, because they are generally thrown up almost as soon as they are taken. It is, however, remarkable, that Dr Hillary seems to have depended much on copious bleeding; and yet he owns that, as the disease will only admit of bleeding on the first and second days, he was seldom called in time to order that evacuation. He greatly disapproves of vesicatories; yet the Doctor's patients almost all recovered, tho' they were often blistered, before he was called, by the country surgeons, who, he says, are unreasonably fond of blistering in fevers. As the Doctor was not often consulted till the disease was much advanced, he should seem not to have had many opportunities of exhibiting the opium in due time: For, when the patient is exceeding low and weak, opium, even in moderate doses, is quite unsafe, especially as there is often a tendency to a stupor or coma in this fever, when much advanced. This learned Author seems to have acquired a prejudice

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against the use of the bark, in this disease, by reason of its disagreeable taste: Yet a decoction of coarsely-powdered bark, impregnate with some simple mint water, sweetened, and lightly acidulated, sits as easy on the stomach as almost any medicine whatever, and is palatable enough. Tho' the bark is generally ineffectual in the acute West-Indian remittents, yet I have given the decoction of it, with observable good success, in some cases of the second species of the bilious fever, that were protracted to an uncommon length, and attended by a very small degree of febrile heat, and with little or no vomiting after the second or third day. Upon the whole, I am inclined to believe that very few cases of the true malignant bilious fever fell under Dr Hillary's observation; the rather because it is only incident to unseasoned strangers, or such as have not resided one year in the country; and is most frequent among sailors and soldiers who are much crowded on ship-board; where it is often rendered more universal, obstinate and fatal by the influence of foul air, or more or less of the proximate cause of the jail-fever, joined with a scorbutic taint.

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DR Towne recommends the cooling or antiphlogistic method. Dr Warren with great warmth recommends the contrary. The former practised copious bleeding, even in a greater measure than Dr Hillary, and prescribed Laud. liquid. Sydenham. freely in the second stage of the disease. Others affirm that bleeding is greatly injurious, and disapprove of the use of opium in the bilious fever. Dr Towne prescribed Ipecacuanha, combined with three or four grains of emetic Tartar, in the first stage of the fever, after bleeding: But most physicians disapprove of emetics, and deem them pernicious in this disease. Some recommend blistering, and the last mentioned author directs the application of a compleat set of them in the last stage of this fever; by others they are deemed noxious. Many recommend repeated purging with lenient cathartics; and some disapprove of them. So great a contrariety of opinions, even amongst eminent physicians, relative to every article of the curative procedure in the West-Indian bilious fever, doth fully evince, not only the great un-

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certainty of the effects of medicines in this obstinate disease, so far as they are conducive towards the patient's recovery, but also that no procedure or medicine is yet discovered that can be relied on in malignant cases of it. However, I purpose, hereafter, to give some observations and remarks relative to the cure; with the procedure that appears to me most rational, and appropriate to the principal symptoms and genius of this disease; and with a more particular recital of the prevention; which are here omitted, because they would protract this article to a greater length than is consistent with the scope of the present performance, in which I only intended giving a brief narrative of medical observations. But as the following dissections with remarks elucidate many particulars, with regard to the internal causes and effects of this disease, I was unwilling to postpone the publication of them. In the narrative of each case, the most remarkable symptoms only are mentioned.

Of

*Of DISSECTIONS; with Remarks on
the immediate Causes of the BILIOUS
FEVER.*

CASE I.

ON the 26th of January 1744, a sailor, of a good constitution, aged about 25, was seized, on board the Kent man of war, then lying guard-ship in Port-Royal harbour, with an ardent bilious fever. In the evening of the second day of the disease, the patient was carried to the hospital at New-Greenwich: Then the fever was less intense; but the head-ach, and vomiting continued; the white of the eyes had a yellowish tinge; and his thirst was unquenchable. On the morning of the third day he was seized with a phrenzy, and cried and shrieked; his nose, soon after, began to bleed, from the rupture of a small vessel; the yellowness of the eyes increased, and a faint jaundice discoloured the skin. In the twelfth hour of the phrenzy, he became

came speechless, motionless, and a spurious apoplexy commenced; with an exceeding small and scarce sensible pulse, and loud laborious respiration; in the end of the second hour of which, and in the evening of the third day, he expired. Immediately after death, his temples, the lateral and posterior portions of the neck, the sides and back, and almost the whole surface of the extremities became of a pale, livid hue, intermixed with purple; and some blood issued from the mouth and nose. The patient had been impressed out of a merchant ship, three weeks before the attack of this fever. Next morning, after his death, I opened the body, and observed the following particulars.

THE subcutaneous fat was very lax, and of an orange, or golden colour. The omentum was of a yellowish green, being much tinged with bile. The stomach, mesentery, and small intestines, were deeply tinged with bile. The liver was of a light-brown, resembling the colour of a withered leaf; and of the natural size; and it discovered

vered no appearance of inflammation, neither in its surface, or internal substance.

THE stomach contained about four ounces of a muddy dark-coloured humour inclining to greenish, of a dark consistency, and somewhat fetid smell. The duodenum, which was of a darkish-livid hue as if it had been mortified, was turgid with a fetid bilious humour, nearly resembling that which was contained in the stomach. The jejunum contained some portion of the same dirty bilious humour; and its outward surface was of a paler livid than that of the duodenum, but it was rather darker in some spots than others, or marked with vibices. In the extremity of the ilium, near the valve of the colon, was a long round worm. The ilium was somewhat inflated; it only contained some mucus, and was more faintly livid than the jejunum. The great intestines were collapsed and empty, and of the natural colour; their blood-vessels. and those of the mesocolon were also collapsed.

THE dark-livid hue of the duodenum proceeded from the same cause, which gave rise to the vibices, and extensive lividity at the surface of the body ; that is, partly from stagnant blood in the minute capillaries, but chiefly from blood that was extravasated by transcolation. For, having cut out a piece of the duodenum, and having washed it very well, and squeezed out the stagnant blood, it then appeared white, and was pretty tough, and free from any signs of a gangrene. I am inclined to believe, that a similar appearance of the small intestines, from the same cause, has induced some gentlemen of the medical profession to conclude that they were actually mortified ; and that the bilious fever was an inflammatory, or erysipelatous fever ; or a fever that was so highly productive of putrefaction, as to produce a putrid mortification of the bowels, without any antecedent inflammation. There is no doubt, but that a symptomatic erysipelas may possibly invade the stomach or intestines, in some cases of the bilious fever, which may terminate in a mor-

mortification : But I believe that such a case is very extraordinary ; and its attendant symptoms must be in a great measure different from those of the bilious fever ; since, if the erysipelas invades the small intestines, the disease will personate an iliac passion ; and if it attacks the stomach, it will assume the form of the cases of an inflammation of the stomach which are recited in the sequel.

THE gall-bladder contained about half an ounce of dense bile, which stained writing-paper with a deep yellow inclining to greenish. There was no obstruction in any of the large biliary ducts ; and the bile, on compressing the gall-bladder, was easily propelled into the duodenum. The vena cava ascendens was extraordinary large, and turgid with blood ; the aorta was small and collapsed. The pericardium contained but very little moisture. The right ventricle of the heart was full of liquid blood, of the consistency of new cream, and of a dark red colour, which stained writing-paper with a bright and beautiful red : It had no disagreeable smell. The

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capillary vessels of the lungs were livid and turgid with blood; as were those of the brain and meninges. Other particulars were in a natural state.

C A S E II.

SERJEANT Pope, of the Marines, belonging to his Majesty's ship the Prince of Orange, on the 26th of May, 1744, was attacked with a low bilious fever of the second species. At the 12th hour of the disease he began to vomit bile; but the vomiting was not frequent, nor violent. On the third day a faint jaundice appeared; and the fever became so low as to be scarce manifest, but without any favourable symptom; he complained of some pain in the loins, and in the epigastrium; and was sleeplless, restless, exceeding weak, and low-spirited, but sensible. On the fifth day he vomited some mucus, a little tinged with blood; his urine was dense and bilious, and the yellowish tinge of the eyes and skin was increased; and on the eighth day he died. After death, extensive vibices of a livid colour,

lour, inclining to purple, appeared on the extremities.

ABOUT the seventh hour after his death, I opened the abdomen, and observed the following particulars: The omentum, which was very fat, was of a high yellow or orange colour; and in it there appeared, near the adhesion of its two united borders to the common ligament of the duodenum and colon, several small hydatids, which contained an oily transparent serum of an orange colour, which run out when these cells were punctured. Some of the same sort of hydatids were also to be seen in the superior side of the mesocolon, near the adhesion of the colon and duodenum. The liver was of a light-brown colour, but apparently sound, and free from any manifest inflammation throughout its substance. The gall bladder contained about six drams of a dense ropy bile, which stained writing-paper with a deep green, inclining to yellow; its passage into the duodenum was in no wise obstructed. The stomach and intestines were fresh, sound, and of the natural colour;

lour; the former organ was small and contracted, and contained about four ounces of a humour nearly of the colour and consistency of boiled sago: The jejunum contained some of the same sort of humour, intermixed with a black mucus; and the ilium and great intestines were empty and collapsed. This patient had been five months in the country when this fever attacked him.

C A S E III.

JAMES Donaldson, mariner, belonging to the Thunder Bomb-Ketch, had been five months in the West-Indies, when, on the 21st of September, 1744, he was seized with a violent fever, which soon was supervened by great sickness and anxiety at the præcordia, with vehement bilious vomiting. The fever became less ardent soon after the vomiting commenced, but without any abatement of the other symptoms. He continued to vomit bile at times; his thirst was insatiable, and whatever he drank was instantly thrown up. On the third day he began to complain of pain in the epigastrium, which
was

was somewhat tense; and on pressing it with a hand the pain was increased. On the morning of the fifth day, all the symptoms had a more unprosperous aspect: The epigastrium, and the right and left hypochondria were very tense, tumefied, and exquisitely pained on being gently pressed with a finger; and the patient complained of a burning heat at the seats of the heart, stomach, and duodenum, attended with great sickness or anxiety at these parts. His thirst was still unquenchable; the pulse was very small, weak, rather soft, and unequal, the native heat at the surface of the body, about the præcordia, was rather below the natural standard, and in the extremities it was still more remiss; he scarce ever slumbered, and was exceeding restless, but pretty sensible; his eyes were yellowish, but his skin, which was somewhat moist in the close of the disease, had only a very light yellowish tinge; and in the end of this day, or beginning of the sixth, after a spurious apoplexy of short continuance, he expired; and, soon after, the sides and posterior parts of the trunk and neck, and the extremities,
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became of a purple colour. At the fifth hour after his death, I opened the body, and observed the following particulars in the abdomen and thorax.

THE omentum adhered a little to the peritoncum, immediately above the umbilicus. The peritoneum, chiefly in the epigastrium and hypochondria, the seat of the pain and tension, had its capillaries, probably the ultimate sanguiferous arteries, turgid with florid blood, as if they had been injected. The capillary arteries of the omentum were also turgid with blood, as were those of some portion of the mesentery.

HERE, then, were obvious marks of an inflammation, which was altogether symptomatic, and the result of vehement vomiting; and, being similar to an ophthalmia, it neither terminates in suppuration, or a gangrene. When the disease has a proper issue, this inflammation soon recedes; and when the pain and tension in the epigastrium cease before the fatal crisis, the inflammation is resolved in consequence of a great tenuity
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of the blood, which often takes place in the close of this disease, especially when it exceeds the fourth or fifth day. The slight ophthalmia in the beginning of this fever is always speedily resolved by the same cause, at, or soon after the appearance of the symptomatic jaundice; the head-ach, at the same time, commonly ceases or abates, for the same reason.

THE villous coat of the stomach had a reddish appearance, and was probably a little inflamed under the disease, from the vehement and long continued retching, and the acrimony of the bile together; whence the instant vomiting of things ingested; which, nevertheless, may, and does often happen without any manifest inflammation of the villous or nervous coats of the stomach. The more exterior coats of that organ seemed in a natural state. Its outward surface was much tinged with bile, which would seem to be disposed, in a peculiar manner, in the bilious fever, to pass by transcolation
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thro' the coats of the gall-bladder. The duodenum contained some viscid bilious humour of a dark dirty colour, inclining to greenish, which had a most faint and disagreeable smell. The jejunum was turgid with the same sort of putrid humour; the ilium contained a small portion thereof, and some air; and the colon was empty and collapsed.

THE liver was of a light-brown colour, inclining to yellowish, and somewhat larger than it is commonly in a natural state; but it was apparently sound throughout its substance, without any manifest signs of obstruction or inflammation. The gall-bladder contained about six drams of thick bile. It should seem that a more than ordinary proportion of blood is determined to the liver, and that the circulation therein is much accelerated in the bilious fever; at least in the fore part of this disease; which necessarily increases the secretion of the bile, which is often so copious in this fever. By the same
cause

cause the liver may be increased in size, without being in any wise obstructed or inflamed: Indeed, was the liver much obstructed, or impostumated in the bilious fever, as some have affirmed, the secretion of the bile would of necessity be diminished.

THE vena cava ascendens, and the emulgent veins were very large, and turgid with blood; the right auricle of the heart was large, and filled with fluid blood; the right ventricle was less turgid; and the left auricle and ventricle were empty and collapsed. The right auricle had some portions, resembling fat, adhering to its inward surface; which, on closer examination, were found to be membranous cells, containing a yellow oily or bilious serum, which were precisely similar to those already mentioned in the case of Serjeant Pope. Some of the same sort of cellular hydatids adhered to the fleshy columns of the right ventricle; and I found a small portion of them adhering to the internal surface of the left ventricle.

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It is observed in the foregoing, that this patient complained of great heat at the seat of the heart; and the abovesaid vesicles might have proceeded from some degree of an erysipelatous inflammation of the inward surfaces of the auricles and ventricles of the heart, which also occasioned the last-mentioned symptom. There appeared nothing else remarkable in the abdomen and thorax.

I put the blood that was contained in the right auricle and ventricle of the heart, the bile that was taken out of the gall-bladder, and the tainted bilious humour that was collected in the duodenum, into separate gally-pots; these I covered loosely with paper; and placed on a shelf in the surgery at New Greenwich, in order to observe their progress to putrefaction, which appeared in the following manner: The blood, which was of a dark red, and of the consistency of new cream, when taken out of the heart, formed into a lax coagulum, and assumed a bright red colour

lour, soon after it was exposed to the external air. In two hours after, a very small proportion of bloody serum separated from the crassamentum. At the sixth hour, several small maggots were moving on its surface, and it had a somewhat faintish smell, but was not fetid, or manifestly putrid. At the thirteenth hour from its being exposed, and the eighteenth from the patient's death, it had a disagreeable smell, and fetid putrefaction was only just beginning; notwithstanding the sultry heat of the air, in which butcher's meat putrifies in eighteen or twenty hours; and tho' the fever was attended with instant vomiting of ingested liquids. At the thirtieth hour the proportion of bloody serum was much increased, and it exhaled a fetid scent. The tainted dark-coloured bilious humour that was taken out of the duodenum, was exceeding fetid at the thirteenth hour from the time of its being exposed. The cystic bile, which was of a dense consistency, and deep green, was not sensibly tainted at the fifteenth hour from the patient's death.

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THO' the bile is remote from a putrid state, in the bilious fever, yet it is, doubtless, in a great measure vitiated, before its affusion into the duodenum ; partly by retained excrementitious humours ; but chiefly by an overproportion of animal oil, which is attenuate, and rendered in some measure acrid or rancid, by the intense solar heat, and the ardent fever together ; and the skin being dry and parched under the disease, retained noxious humours, with an overproportion of juices, are determined inwards, and chiefly to the bowels concerned in making the bile. But after the bile remains a short time in the duodenum, where it is blended and ferments with other vitiated and less animalized matter, it becomes putrid, excrementitious, and highly noxious. And in this highly vitiated and putrid state, some portion of it is absorbed by the lacteals, or partly forced into these absorbents, by vehement vomiting ; and partly too thro' the coats of all the vessels by transcolation ;
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and thus gives rise to the most malignant species of jaundice. Indeed the yellowish tinge of the skin may sometimes be partly owing to the high orange colour of the animal fat, in some cases of the bilious fever; which, being rendered thin and fluid, by the heat of the external air, is more easily reasumed into the mass of blood, or thrown upon the skin by transcolation. But I don't suppose that the yellowness is ever in any degree owing to a putrid dissolution of the globules of red blood, as Doctor Warren affirms, for the several reasons already mentioned.

BESIDES the absorption of some portion of the abovesaid bilious humour, which is so speedily and highly vitiated in the duodenum and jejunum, there is also, no doubt a pretty deal of pure uncorrupted bile reasumed into the mass of blood, in the course of the bilious fever. For, in vehement fits of vomiting, it will be forced back from the gall-bladder, and large biliary canals, thro' the

the pori bilarii, into the branches of the vena portæ hepatica, by the strong compression of the gall-bladder, and of these canals, by the powerful action of the abdominal muscles and the diaphragm; the duodenum, where the ductus communis cholidochus insinuates itself between its coats, being, at the same time, contracted by a spasm, so as to impede the ingress of the bile: For the duodenum generally contracts with the stomach in violent fits of vomiting, whereby its contained bile is thrown mostly upwards. Now, as the contents of that gut is so exceedingly depraved in the bilious fever, 'tis no wonder that vomiting, being once begun, is often continued, in this disease, till the patient's strength is irrecoverably weakened; and that the villous coat of the stomach is sometimes inflamed, or excoriated by that acrid bilious humour. There is also, doubtless, some portion of pure bile admitted into the blood, and into the interstices of the vessels, by transcolation, from the compression of the aforesaid canals, and the gall-bladder, under

under vehement fits of vomiting; especially as it is apt, in the bilious fever, to pass thro' the coats of the gall bladder. From what is said, the reason is obvious why violent bilious vomiting, in whatsoever climate it happens, doth often induce more or less of a jaundice; provided it be not attended with a bilious diarrhœa; and that the bilious vomiting occasioned by the bite of a viper is speedily followed by a symptomatic jaundice; the secretion of the bile, in such cases, being always increased, so as to afford a greater portion for regurgitation, transcolation, and absorption.

THE circulation is promoted in the liver by the powerful action of the diaphragm and abdominal muscles, and of the peristaltic motion of the alimentary tube, on the trunk and branches of the vena portæ ventralis; which, in effect, is analogous to the systole and diastole of the heart and arteries. Hence it is that the secretion of the bile is increased by vehement vomiting, and is often so profuse in the bilious fever.

VI. *Observations and Reflections relative to
PUTREFACTION, and the Concoction of
the peccant Humour in Fevers.*

THE prevailing opinion, that certain malignant fevers do wholly result from a putrid fermentation of the circulating juices, excited by a putrid ferment, should seem not to be sufficiently ascertained: It is, however, liable to unanswerable objections. There is no doubt but that the fetid smell of putrid animal substances, hath given rise to malignant fevers, in persons who could hardly be supposed to have any uncommon predisposition to the acquired disease. In that case, the fever is excited partly, I suppose, by a particular influence of the putrid effluvia on the olfactory nerves, or their contained fluid, but chiefly by the influence of sympathy and antipathy: For 'tis well known that such offensive smells very seldom do any prejudice to persons who are
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accustomed to them ; because habit suppresses the powers of sympathy and antipathy, with regard to the accustomed smell : But if such effluvia operated as a putrid ferment, so as to give rise to a similar putrefaction in the animal juices, there is no degree of habit that could exempt the human body from being attacked by a putrid disease, on coming within the influence of the effluvia of any putrid animal substance.

IN diseases acquired by infection, particularly the small pox, and measles, some particles only of the juices are assimilated to the nature of the infectious miasmata ; but were these to operate as a putrid ferment, the whole mass of blood would be alike distempered ; and, in this case, no separation of the peccant humour, or an eruptive crisis, could possibly take place.

THE fetid smell of the dejections in the dysentery, which some attribute to a putrid taint of the mass of blood, results partly from

from a vitiated secretion in the intestinal glands; and partly from extravasated blood, which soon corrupts in the intestines, after mixing and fermenting there with other vitiated and less animalized matter. The fetid breath in some fevers generally proceeds from a like cause; in the petechial land-scurvy, it is occasioned by the putrefaction of oozing blood in the mouth, and fauces, and sometimes too in the bronchia. The putrid ulcers and gangrenes, that sometimes happen in the dysentery, and some other acute diseases, and in malignant scurvies, are the result of local obstructions, and inflammations; and sometimes of stagnant blood extravasated by transcolation. Some farther particulars relating to this subject are recited in the second chapter of my treatise on the scurvy.

IT appears, by the dissections exhibited in the foregoing, that the blood is far more remote from a putrid state, at the fatal period of the bilious fever, in the West-Indies, than

than is commonly imagined ; tho' it is, no doubt, in some measure, distempered by an extraordinary vicinity to putrefaction. But I don't suppose that the fever, or the fatality of it, depends chiefly on that distemper of the blood ; which is rather an effect, than a principal cause of the disease : Nor is the tenuity of the blood any certain sign of putrefaction in living bodies ; for the blood is often thinner, immediately after a salutary crisis, or in the decrease of the West-Indian bilious fever, than in the end of the last stage of fatal cases of that disease.

THE great tenuity and fluidity which the blood sometimes acquires, particularly in the petechial land-scurvy, in so much as to render it susceptible of passing through the sides of the vessels, and of being transmitted by some emunctories, is the result of a particular dyscrasy that is totally different from a putrid fermentation ; because this vital juice, when so changed, doth sometimes at once resume its former natural state,
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on the appearance of a critical salutary eruption ; and, in the abovesaid land-scurvy. that dyscrasy is often soon corrected with cold acidulated spring water, and one moderate bleeding ; sometimes with the aid of a decoction of the bark, and of the roots of tormentil, or great water-dock ; confection of alkermes ; marmalade of Sevil oranges ; opening the body sometimes with rhubarb and cream of tartar ; and a suitable diet. Besides, 'tis well known that coagulated blood never becomes sensibly thinner, or of a more lax consistency, in the open air, till it hath attained an high degree of putrefaction, and is intolerably fetid.

THE abovesaid scorbutic dyscrasy of the blood, with spitting of blood, and livid petechiæ, and sometimes with bloody urine, is generally induced by the peccant humour peculiar to some eruption, when influent ; or by a depraved depurative fermentation, or the fruitless efforts exerted by the depurative and effluent faculties to separate the peccant humour

mour from the sound juices, and throw it upon the surface of the body, in the form of an eruption; as I have observed in a former publication. A young man, aged about twenty, acquired that dyscrasy, with spitting of blood, and bloody urine, but without petechiæ, in the eruptive fever of the small pox; which protracted that fever, and prevented the variolous eruption. It was soon corrected by drawing six ounces of blood from the arm, and drinking cold spring water acidulated with spirit of vitriol; upon which the bleedings ceased, the small pox came out, and kindly suppurated, and the patient soon recovered. (Candid and satisfactory answers to the Critical Reviewers, &c. page 25.)

I HAVE met with several cases of the scorbutic petechial dyscrasy, in the spring, from a retention, in the habit, of a scorbutic humour, or the peccant humour peculiar to some cutaneous eruption. In the first stage of this disease, which may properly
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enough be termed the petechial land-scurvy; the party, exclusive of the oozing of blood, and the livid petechiæ, has no complaint, but eats, and sleeps well; the pulse is large, free, rather soft, and somewhat quick, and sometimes rebounding; the tongue and inside of the mouth are sometimes full of livid or blackish petechiæ; and those upon the skin are sometimes elevated, or accompanied with redish elevated pustules, with itching. In the beginning it is commonly soon cured, as is above-mentioned, and chiefly with acids, and one moderate bleeding; but if it is neglected, a fever, with anxiety at the præcordia, accedes, which soon ends in death. The fever, in this case, is symptomatic, and therefore different from a true petechial fever; and it may be termed a petechial scorbutic fever. But in the true petechial fever the livid spots are symptomatic, and supervene the fever; tho', in this case too, they are doubtless induced by some degree of the petechial scorbutic dyscrasy from the retention of a peccant humour which nature endeavours

deavours to throw upon the skin: Wherefore those patients who have petechiæ of a bright red, or other florid exanthemata, or critical boils, or parotids, are generally exempt from the petechial dyscrasy, with livid spots, and oozing of blood.

THE blood that is drawn from the arm, in that dyscrasy, forms into a somewhat lax coagulum, and is florid at the top, with a very small proportion of serum; which, in this distemper of the blood, is intimately blended and coherent with the red globules.

THE notion which at present is so prevalent, that putrefaction is the chief immediate cause of most fevers, may sometimes mislead young practisers of medicine, by inducing them to throw in strong antiseptics that may, in particular circumstances, be unsuitable to the genius, and degree or state of the fever. A regular simple continued fever has some analogy with an unmalignant boil that is hastening to maturation ;

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tion ; and the proper drinks and medicines in that fever, are such as forward the concoction of the peccant humour ; and after the crisis of the fever, or as soon as it begins to decrease, aperients and abstersives are suitable ; and lastly corroborants.

MALIGNANT fevers do also depend on a peccant humour which must be concocted in order to give the disease a prosperous issue. Wherefore the principal intention of cure is to promote that natural process, or concoction of the peccant humour, by suitable nourishment, drink, and medicines. It must, however, be owned that, as a malignant boil is apt to terminate in an ill-conditioned ulcer, with a sanious or ichorous discharge, or in a gangrene ; so, in a malignant fever, the peccant humour may become highly depraved, and destructive of life, unless nature can be effectually aided by the medical art ; tho' it cannot acquire a putrid, or sanious, or gangrenous disposition, unless it be stagnant, from local obstructions. Wherefore, when the fever is
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too low, it may be raised, with a view to increase the concoctive faculty, with wine; a decoction of peruvian bark, and of snake weed and contrayerva roots, saffron, camphire, and the like. But when the fever is too high, and, in that case too, more productive of an increase of the immediate cause of the disease, than of a laudable concoction of the peccant humour, it must appear obvious to every one, who is not prepossessed in favour of the hot alexipharmic and antiseptic procedure, that it should be lowered according to art. When the blood is unfizy, nothing answers this intention so effectually, after drawing off some blood, agreeable to the indications, as cold spring water, acidulated either with mineral or vegetable acids; and frequently the acidulated cold water, by duly condensing and cooling the blood, and lowering the fever, renders bleeding unnecessary; which, in many cases, is of no small advantage.

THE malignant fevers that are usually termed putrid are, in general, at least when
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much advanced, attended with more or less of the petechial dyscrasy: Wherefore, while we endeavour to promote the concoction of the peccant humour, due regard should be had to the prevention and correction of that dyscrasy; which is performed by the medicines recommended in the foregoing against this distemper of the blood, and chiefly by acids. Therefore, when the fever is too high, the same medicines are most suitable both for the prevention, or correction of the dyscrasy, and promoting a laudable concoction of the peccant humour. As that dyscrasy is generally owing, in a great measure, to a peccant humour, which nature endeavours to throw upon the surface of the body, mild diaphoretics are generally serviceable in such malignant fevers. But slow nervous fevers are of kin to the ordinary land-scurvy described in the sequel: Wherefore the peccant humour, in such fevers, is generally exceeding difficult of concoction; and we can seldom form any certain judgment of them by the urine. These, in general, with

when they are not complicated with some degree of the former, or with more or less of the petechial dyscrasy, require more generous and stimulating medicines, and such as are more powerfully aperient, attenuant, and diaphoretic, than the malignant putrid fevers, as they are usually termed. A warm medicated bath is often of signal service in slow nervous fevers of this kind, as Dr Gilchrist has justly observed. These two kinds of fevers, variously combined, do constitute a great variety of fevers, that are more or less different as to their natures, or species: and these variations may arise either from the common outward causes of such fevers, or from the personal constitution, or both.

THE Peruvian Bark has, of late, been given in ardent eruptive fevers, before the crisis; chiefly I suppose from an high opinion of its antiseptic virtue; for it cannot be supposed that the intention of giving it, in such fevers, is to promote the concoction of the peccant humour; because the bark is
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only productive of that effect when the fever is too low. I don't know that the bark is possessed of a specific power of preventing the termination of a vehement inflammation in a gangrene; unless the attendant fever be low, and the pulse not quick: I have, however, known it fail in this particular, even in a true erysipelatous inflammation, with unfixed blood, but with an acute fever. Were it possessed of such a virtue, it would prove a sovereign remedy in the true malignant iliac passion; since, if it were ejected by vomit, it might be administer'd by glyster, and applied to the surface of the body. But, after the commencing of a gangrene, the bark seldom fails to stop its progress; which it effects, not by its antiseptic principle, but by its peculiar cordial and corroborative qualities; by means of which the powers of the body (which are usually much depressed after the commencing of a gangrene) are strengthened and enlivened; the concoctive faculty is proportionably increased, and a laudable suppuration begins to take place between

tween the inflamed and gangrened portions ; upon which the latter soon separates ; the peccant humour is discharged in the course of the suppuration ; and the patient recovers apace.

'TIS generally known that the Peruvian bark is most conducive towards promoting a laudable suppuration : In the West-Indies, particularly in aguish places, large wounds can scarce be cured without it ; and it must appear to every unprejudiced person, on the least reflection, that the virtue of the bark depends not on its antiseptic principle ; because we are possessed of many things that are more powerfully antiseptic than the bark, but that are wholly ineffectual in obstinate agues and gangrenes.

ACIDS are exceeding serviceable in almost all fevers ; but chiefly in such as are either ardent, or slow and malignant. Their good effect may depend in some measure on their antiseptic virtue ; but it results chiefly from their cooling and refreshing qualities ; and par-

particularly from their peculiar property, when taken in cold spring water, of checking and preventing hemorrhages; as well as the aforefaid dyscrasy of the blood, which disposes it to pass, by transcolation, thro' the sides of the vessels, and by the emunctories, so as to occasion livid petechiæ, vibices, spitting of blood, and sometimes bloody urine. But when the fever is too low, the acids should be combined with the decoction of Peruvian bark, and other suitable alexipharmics.

FROM what is said, it appears that those medicines, which are usually given with a view of resisting the putrid tendency of the juices, produce their good effects, when well appropriated to the genius and degree of the fever, not by means of their antiseptic properties, but chiefly by supporting and regulating the vital power, and preserving the natural crasis of the blood, so as to enable nature to accomplish as laudable a concoction of the peccant humour as is consistent with the nature of the disease. Wherefore

fore the general procedure in fevers should be directed with a view to this important object.

IN the slow nervous fevers, mentioned in the foregoing, that are near a-kin to the ordinary land-scurvy, and whose peccant humour, by consequence, is exceeding difficult of concoction; or, at least, in such cases of this kind of fever as are of long continuance, and attended with vehement fixed, or wandering pain, and a moist tongue, mercur. alcalizat. or the mercury combined with sugar, or honey, or conserve of roses, is often of signal service. For the mercury is most efficacious towards promoting the concoction of the peccant humour peculiar to scorbutic eruptions, or the common land-scurvy, and resolving obstructions in the fine vessels which thence result.

IN some slow nervous or scorbutic fevers, the peccant humour which attacks the noble parts will neither admit of being concocted, or resolved, by the powers of the body, aid-

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ed by the usual appropriated medicines ; or at least not in due time so as to prevent a fatal issue, or a lingering disease. In such cases, the obstructed matter is sometimes at once dislodged and expelled by a drastic preparation of antimony, such as Dr James's powder, when it operates vehemently by vomit and sweat, or by both these ways and by stool. By this bold procedure some diseases are speedily and safely cured, that would either have continued a very long time, or have ended in death : By consequence, such drastic and powerfully aperient antimonial medicines, will be most serviceable in cold moist climates, subject to changeable weather, where obstinate diseases from scorbutic humors, which are exceeding difficult of concoction, are most prevalent.

SOME medicines have, doubtless, specific powers of correcting the particular acrimonies peculiar to the peccant humours in some different diseases. The sarsaparilla is destructive of the contagious matter in the venereal disease: Sulphur is possessed of a similar

milar power, with regard to the peccant humour peculiar to some cutaneous eruptions. 'Tis probable that the extraordinary medicinal power of the Peruvian bark, in agues, and some other diseases, results from its action upon the fluids, as well as on the solids. The medicinal powers of acids in hemorrhages, and the aforesaid petechial dyscrasy, do result chiefly, or in a great measure, from their action on the fluids; at least with regard to the dyscrasy: And mercury, exclusive of its abovementioned properties, seems also to be possessed of specific powers of correcting, in some measure, both the venereal and scorbutic acrimonies.

VESICATORIES are exceeding serviceable in slow nervous fevers, not by raising the pulse by means of their stimulus, as is commonly supposed, but by attracting the peccant humour from the noble parts, as I have more particularly observed in a former work.

IN malignant fevers, particularly in the bilious, and such as are attended with a
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sense of great sickness or oppression at the stomach or præcordia, or nausea, or vomiting, or flatus, and pain in the loins, or that are a-kin to the dysenteric, the body should be kept somewhat open with glysters, and lenient laxatives; which always relieve the patient, so as to occasion a more free and effectual exertion of the vital powers: besides, they contribute to resolve obstructions, and, by consequence, to increase perspiration; and when this cutaneous discharge is much impaired, laxatives become so much the more necessary, in order to supply the defect of perspiration. In the abovesaid fevers, a putrid bilious humour usually accumulates in the duodenum and jejunum, and is absorbed by the lacteals, and productive of the most dangerous effects: Now laxatives taken by the mouth are absolutely necessary for discharging that humour, which lies out of the reach of glysters. Some are averse to give even lenient purges in fevers, lest they weaken the patient, and retard the concoction of the peccant humour, or bring on a dangerous diarrhœa: But

But as, in the circumstances abovementioned, they chiefly evacuate noxious humours, which otherwise would increase the disease, they cause no additional weakness; and 'tis obvious that the omission of them, in the abovesaid fevers, is most likely to occasion a dangerous symptomatic diarrhœa. and other bad effects. In many cases of this sort, particularly when there is great anxiety at the præcordia, without vomiting, rhubarb combined with vitr antimon. cerat. or rather Dr James's powder, is of most signal service.

IT is, I think, generally supposed, that highly animalized juices are most susceptible of putrefaction; yet, I presume, there is a moral certainty of the contrary. The bile should seem to be an highly animalized juice, since it is conducive towards the assimilation of the chyle; yet it advances more slowly to putrefaction, than red blood; tho' when it is vitiated in the bilious fever, it soon becomes putrid, after being affused into the duodenum, by mixing, and quickly
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fermenting there with other vitiated and less animalized matter. Juices that are perfectly animalized or assimilated are less prone to putrefy, than such as are partly crude, or blended with a great proportion of acedent chyle. Hence it is that veal, which is fed with milk, which is more acedent than the juice of grass, becomes tainted much sooner than beef, in warm weather. Hence also the reason why the meat of bullocks and sheep that are kept in a house, without food or drink, for the space of thirty hours before they are slaughtered, till the recent chyle is completely assimilated, is firmer, and keeps sweet much longer, in hot weather, than the flesh of such as are slaughtered soon after taking them off their pastures. I have taken particular notice of this fact, which is well known to every butcher that is conversant with his business. Fasting is, besides, productive of the following good effects. Excrementitious humours are wholly discharged; and the blood is more advanced towards an alcalized state, tho' it is still remote from putrefaction; it is, by consequence, most effectually

ally purified, and attenuated ; and obstructions, if any take place, that are not exceeding obstinate, are resolved. Hence it appears that fasting, in a certain degree, answers, in the most effectual manner, the intentions of antiseptics, evacnants, sweeteners, or correctors, attenuants and deobstruents ; at least with those who live chiefly on vegetable food. On these principles, the ancient method of curing many diseases by fasting, is both rational and judicious.

THO' vegetable food must yield a much greater proportion of acescent juices, than animal food ; yet experience has evinced that juices prepared from vegetables, after being assimilated, are wholesomer than such as are prepared from animal food : And 'tis probable that fasting, in particular circumstances, will be more serviceable to those who live on farinaceous foods, than to those who live almost wholly on butcher's meat ; and the former will endure it much longer than the latter.' Acids are serviceable, and, indeed, in some measure necessary for the latter ;

latter; but to the former they are unnecessary, and sometimes rather detrimental, while under no disease. Exercise, and warm aromatic stimulants, and even salt, are more serviceable to the former than to the latter; because vegetable food requires stronger and brisker assimilating powers than animal food; and by exercising those powers, it should seem to be productive of a greater degree of strength, and of health and good spirits, than animal food.

THO' I am inclined to believe that the fevers that are commonly termed putrid, are, in general, much less so than is commonly imagined; yet there are some diseases that should seem to have a just claim to that appellation. The case of a most acute fever, with an attendant apoplexy, narrated in the foregoing, which proved fatal in seven hours, was, I conceive, a true putrid fever. The putrid fermentation first began in the alimentary tube, and chiefly in the stomach, after drinking a large quantity of cold water; and was soon, I suppose, communicated

cated to the circulating juices; which, being greatly overheated by hard labour. in the solar heat, were most susceptible of such a fermentation; the rather, because they contained a great proportion of crude acceſcent juices; for the patient was healthy, and probably had eat a hearty breakfast in the morning, before the attack of the diſeaſe. The great degree of heat that was retained in the body, for ſome hours after death, was occaſioned by a continuance of the hot putrid fermentation, which, being ſimilar to that of a dunghil, was promoted chiefly by the unassimilated acceſcent juices; for perfectly animalized matter is not ſuſceptive of any great degree of heat under the proceſs of putrefaction.

A FARMER, in Skelton, in Cleveland, aged about 70, was carried off by a like diſeaſe: After working much harder than uſual, and being greatly overheated, he eat a very hearty ſupper; and, ſoon after going to bed, was ſeized with an apoplexy, attended with a great degree of heat, chiefly in

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the trunk of the body, which proved fatal in thirty hours. Some hours before his death, the abdomen swelled considerably, the skin was bedewed with a hot clammy sweat, and he had a strong breath.

IT is probable that such real putrid diseases will always be attended with an apoplexy, and be quickly fatal; because the juices, in such a putrid fermenting state, must be wholly unfit for the purposes of life. A fever from an actual putrid fermentation of the circulating juices must always end in death; because that fermentation must necessarily terminate in putrefaction, and cannot in anywise effect a salutary concoction of the peccant humour.

CALVES that are put to graze in a rich pasture, towards the close of autumn, are sometimes seized with a putrid disease which destroys the animal in thirty hours. It is termed, by the farmers, the quarter felon, because one hind quarter, only, becomes putrid and emphysematous; and as soon as
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the emphysema reaches the spine, the animal expires. It is most incident to calves that are healthy, and in good case. The great proportion of acescent juices in the body of the animal, in that circumstance, will render it more susceptible of the putrid disease: But what the exciting cause of it is, or why it should affect one quarter only, and always one of the hind quarters, is yet unknown; nor is there any remedy for it yet discovered. From this instance, and some others of the like nature that might be adduced, it appears that animals that live wholly on vegetable foods, are under particular circumstances, liable to the most putrid and speedily fatal diseases. From what is said in the foregoing it may, with great reason be inferred, that the abovesaid disease, incident to calves, may be prevented by fasting, or putting them now and then into a bare pasture.

VII. *Of the Cure of the NERVOUS COLIC,*
or DRY BELLY-ACH.

THE methods of cure, recommended by authors against this excruciating disease, are wholly ineffectual in the most vehement and obstinate cases of it: As it is generally of long continuance, and sometimes terminates in paralytic affections, and contractions of the extremities, the discovery of an effectual method of relieving the miserable patient safely and speedily from so great an affliction, must be extremely desirable. I was the first, so far as I know, who first cured this disease by raising a gentle salivation with calomel. This method I discovered accidentally in his Majesty's hospital, at Port-Royal, in Jamaica, in September 1743. by giving repeated doses of calomel and scammony to a sailor who laboured under a most violent dry belly-ach; as is directed, by Riverius, in obstinate cases of this disease. This medicine, tho' aided by gly-

glysters, failed to move the body as was intended; but the calomel soon affected the salival glands, and induced a swelling of the fauces, and a salivation; upon which the belly-ach instantly ceased, and returned no more. I had, after that, opportunities of practising the salivation only in four obstinate cases of this disease, in each of which it succeeded, and the colic always ceased as soon as the chaps were manifestly swelled, and the salivation commenced; so that any farther exhibition of the calomel was quite unnecessary. My very worthy friend John Hume, Esq; of distinguished merit, was then chief surgeon of the abovesaid hospital. I communicated the success of this procedure to my worthy and ingenious friend Mr Ferguson, then surgeon at Port-Royal, who afterwards practised it in several cases of this disease with the same good success.

THO' some patients entertain a dread of a salivation, yet as, in this case, it requires no protraction, but rather to be reduced
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almost as soon as it begins, especially if the swelling of the chaps is considerable; and as it will not fail to cure the disease, it ought not to be dispensed with, unless the belly-ach be uncommonly mild. In mild cases, that seem not to require a salivation, vesicatories applied on the superior and anterior portions of thighs, contiguous to the groins, are sometimes of service; because the peccant humour of this disease is generally of a rheumatic, or gouty nature, and moveable: Hence the reason why it is so speedily dislodged by making the most powerful revulsion upwards by means of calomel, which, no doubt, also contributes to resolve the obstructions formed by the acrimonious matter in the seat of the disease, by its attenuant and deobstruent powers. In such mild cases, after the exhibition of an emetic, and the purge mentioned in the next paragraph, alcalized mercury may be given, in small doses, as an alterative and deobstruent, with sweet oil.

THE most efficacious purge in this disease

case is a solution of an ounce and a half of sal cath. amar in a pint of the decoction of aniseed. It should be taken at four or five draughts in the space of two or three hours, swallowing a calomel pill with the first draught of it, and forwarding its operation by a glyster or two, if necessary. It is observable, that this purgative is less apt to be thrown up, than the mildest ones that have no sensible acrimony, or any nauseous taste; and, if it fails to operate, it will not aggravate the colic, which the more drastic purges are very apt to do; and it is generally more successful without the addition of laudanum, than with it. But, after raising a salivation, purges are only necessary so far as they contribute to abate the swelling of the fauces, and the spitting; and then, the spasmodic colic being quite ceased, any purge in a moderate dose will operate.

VIII. *Of the* SYMPTOMATIC
TETANUS.

THE partial tetanus of the muscles of the lower jaw is always symptomatic; and is induced by wounds or ulcers in nervous, or tendinous parts, and by amputations, compound fractures, inflammations, and gangrenes; and sometimes even by simple fractures, dislocations, and sprains. It is a frequent occurrence in the West-Indies, but far more so in some places, than others. In the naval hospital, at Port-Royal, in Jamaica, it seldom appeared; but in the late hospital at New-Greenwich on the north side of Port-Royal harbour, it carried off two thirds, at least, of those who underwent amputations; and was an almost certain consequence of the operation, if the diseased limb was more or less affected with a gangrene.

WHEN the tetanus is induced by a
wound

wound in the head, it generally extends not beyond the muscles of the lower jaw and throat. The spasm is rigid and constant, with little or no acute pain, and gradually increases till the jaws become quite locked; then the saliva, which the patient cannot swallow, drivels from the mouth, or is forced out by a strong expiration. The patient, who discovers little or no disposition to sleep, nor any sense of great uneasiness, or of thirst, or hunger, wanders about like one that is melancholy, and is able to keep on his feet, if the tetany is from a simple wound, and is sensible, till the moment before he expires.

THIS disease is commonly attended with a difficulty of swallowing; because the larynx is in a great measure fixed and immoveable, from a spasm of the muscles which raise and depress it. It is sometimes also attended with a difficulty of breathing, probably from a spasm of the muscles which contract the glottis, which, when very considerable, may sometimes be the immediate cause of the patient's death.

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THE tetanus which is induced by an amputation of the leg, is compounded of the partial tetany already described, and of violent and painful convulsions of the muscles of the thigh and stump, which recur and remit alternately. As the disease advances, these convulsions become more violent, and recur at shorter intervals, and now often excite profuse sweats; and sometimes the muscles of the other extremities, and those of the trunk do at length suffer the like convulsions.

IN the West-Indies, the symptomatic tetanus generally begins on the fourth day after an amputation of the leg, or the reception of a wound in the head, and generally terminates in death in the end of the fourth day, or on the fifth of the spasm. But if it be occasioned by a violent and dangerous disease, such as a compound fracture of the thigh, or a fracture of the skull, with a pricking of the dura mater by a depression of the fractured bone, a timely application of the trepan being neglected, the tetany, in
such

such cases, begins on the second or third day, and proves fatal before the fourth day of the spasm. But, in these cases, death is probably anticipated by the vehemence of the primary disease; for the natural crisis of the partial and symptomatic tetany, in the West-Indies, happens in the end of the fourth day, or on the fifth of the spasm, so far as I have observed; which quadrates with the following observation of Hippocrates, Aph. VI. Sect. V. Qui e tetano corripuntur in quatuor diebus pereunt; si vero hos effugerint sani fiunt. The same incomparable author observed that a symptomatic tetany, or convulsion, supervening a wound, is fatal. Aph. II. ejusd. Sect. Vulneri convulsio superveniens, lethalis.

I never knew but one patient who survived the symptomatic tetany. This patient having had the tibia shattered as high as the superior epiphyse, by a wad which was shot from a great gun, in Port-Royal harbour, the leg was amputated, on board, above the insertions of the ligamentum patellæ and the tendons of the flexor muscles. Next day,
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the patient was carried to the late hospital, at New-Greenwich ; and the tetany began, as usual, on the fourth day. But the above-mentioned ligament and tendons being cut, and the bending and extending muscles consequently relaxed, the convulsions they suffered were slight, and attended with little pain ; the round stump, and the thigh, had a constant tremulous motion, from these slight convulsions ; and the lower jaw, tho' it became stiff, and had little motion, never quite locked with the upper one. After the fifth day the convulsions began to abate, and by the sixteenth were entirely gone off, without the aid of opium.

THE disposition to the symptomatic tetanus should seem to be induced by the body being more or less impressed by the proximate cause of a malignant remitting or intermitting fever ; and by the juices being in some degree vitiate, so as to create a tendency to a gangrene. Hence the reason why the tetany appeared so often in the ague-generating air of New-Greenwich, and so seldom
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in the pure salubrious air of Port-Royal; and why, in unwholsome air, it generally succeeds an amputation of the leg, especially if the diseased limb is more or less affected with a gangrene.

FROM what is said we may, with the greatest reason, infer that the Peruvian bark is the most efficacious preservative against this fatal symptomatic disease. Indeed, experience hath fully evinced that nothing is of so much service in all large wounds, in hot climates, as the bark; both by preventing a gangrenous disposition, and procuring a laudable suppuration; and, by consequence, preventing the abovesaid spasmodic disease; provided the irritating cause, which sometimes takes place in particular cases, be timely removed by the surgical art. Wherefore the decoction of the bark should be copiously drunk for several days after an amputation, or the reception of a large wound, especially if attended with contusion; and the stump should be dressed, for some days, with lint moistened with a mixture

ture of equal parts of the tincture and decoction of the bark; and, if the patient breathes an unwholsome aguish air, the internal use of the bark should be continued till the cure is compleated.

AFTER the symptomatic tetany begins, I fear it will often, in the West-Indies, elude every resource, even the extraordinary power of opium; tho' this medicine may infallibly cure it in temperate climates. Unless the effect of the opium is very speedy and powerful it will fail of success, because the disease proves fatal in four days. When the tetany is induced by a gangrenous disposition, the opium will, most probably, be ineffectual. But if by means of the opium, the patient gets over the fifth day, he will probably recover; especially if the wound begins then to have a good aspect. As, in this disease, the patient often swallows with difficulty, there will be a necessity sometimes of conveying the tincture of the opium into the gullet by means of a female catheter; but if that cannot be done,

done, or if the jaws are so much locked as not to admit of taking any liquid by the mouth, it must be injected by glyster, and applied to the wound and throat.

THE idiopathic or original opisthotonus, which is well described by Dr Chalmers, of Charles-Town, in South-Carolina (*a*), must be an extraordinary occurrence in the West-Indies, since I never met with one case of it. The two following cases, the one of some degree of an opisthotonus, and the other of a general tetanus, were both symptomatic, and the result of an inflammation of the stomach.—A stout sailor, young, and of a good constitution, was sent to the late hospital, at New-Greenwich, in Jamaica, in the end of the first day of the following disease.—The patient's chief complaint was an acute continual pain at the stomach, but chiefly at its upper orifice, behind the cartilago ensiformis; on compressing the
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(*a*) Med. Obs. and Enquiries, vol. 1. page 87.

epigastrium, toward the left side, the pain was increased; his pulse was tense, or somewhat hard, but not very quick; his face was flushed; and his breathing was not quite free. He lay upon his back, with his head low, and the neck and spine extended; in raising himself from his bed, which he could do with some difficulty, if he bended his body in the least, the pain at the pit of the stomach was instantly increased, and the head and shoulders were immediately retracted with a sudden jerk. The mildest liquid, drunk in a very small quantity, caused exquisite pain as soon as it reached the upper orifice of the stomach, and excited the spasm of the extensors of the neck and spine.—The muscles of the lower jaw were very little affected in this case; and it was remarkable that the patient did not vomit, nor had any motion to vomit; tho' vomiting is by some reckoned among the symptoms of an inflamed stomach. This patient was completely cured in the space of four days, chiefly by repeated bleeding; the blood that was drawn off amounting, in the whole,

to

to about fifty ounces. The coagulum was somewhat dense, and florid a'top, and in no-wise fizy; yet, as the patient bore bleeding well, and was relieved by it, and as a fizy blood seldom appears among European sailors in the West-Indies, we persisted in that evacuation till the pain at the stomach ceased. The party, immediately on his recovery, was returned on board, lest he should contract a New-Greenwich intermittent.

SOON after the appearance of this uncommon case, I was confirmed in my opinion of the immediate cause of the disease, by a similar case in a negroe boy, aged nine years, the property of Mr Mackdonald, then surgeon at Port-Royal. I was informed by this gentleman, that the said boy had all the above-mentioned symptoms in the beginning of the disease, but that he was soon invaded by a general tetanus of the whole body, and remained extended and rigid, and almost without motion, like a log of wood; till he expired. Mr Mackdonald open'd the body, and found the stomach black and

sphacelated. As neither of these patients ever vomited in this disease, it may, I think, be inferred that vomiting is impracticable in a compleat inflammation of the stomach ; not only because the muscular fibres of that organ are thereby rendered incapable of contracting, but likewise because the compression of it by the action of the diaphragm and abdominal muscles, in the act of vomiting, would give the most intolerable pain. But when the villous coat of the stomach is excoriated, or slightly inflamed by the acrimony of vitiated bile, and violent retching together, which often happens in vehement cases of the bilious fever, vomiting may take place ; and in this case it is excited by the mildest liquids, and is exceeding obstinate.

IX. *A Physiological Inquiry, relative to*
PERSPIRATION, *and the speedy Admis-*
sion of TOPICAL MEDICINES to deep-
seated LOCAL AFFECTIONS, &c.

THE diminution of perspiration in a close, calm, and moist atmosphere, a fruitful source of colds, and many other diseases, has not hitherto been accounted for in a satisfactory manner, so far as I know. The following disquisition is an attempt towards exhibiting the real causes of that effect; likewise the outlets for the matter of perspiration; and by what means topical applications are speedily admitted to deepseated local affections. The principles of this theory were communicated to the truly eminent Dr John Pringle, physician to her Majesty, in a paper on dropsies, in 1760.

ALL animal bodies have an absorptive power, similar to that of a sponge; which is evident from the speedy penetration of sea salt, and salt petre, into the most interior
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parts of the thickest pieces of butcher's meat, and into the bones, by rubbing these salts strongly, and for some time on the surface of the meat. A piece of meat will absorb a pretty deal of salt only by sprinkling the salt upon it, without the aid of pressure or chaffing; and fish may be thoroughly salted in this manner. Now the pores which transmit, and attract the salt are, most probably, those by which insensible perspiration is performed in living animals; and doubtless those by which topical medicines are almost instantly transmitted to deep-seated local diseases. These pores, 'tis well known, are sometimes so much enlarged, or so susceptible of dilatation, as to transmit the globules of red blood; which is observable in some diseases, and is farther illustrated by an experiment which was first made by Mr Cooper, the famous anatomist; by which it appears that red blood may, after stagnating some time, pass thro' the sides of its vessels (*a. b.*). But the absorption of
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(*a.*) Phil. Transf. No. 280, p. 1177.

(*b.*) This is the true cause of an ecchymosis from contusion; likewise of the purple and livid vibices in the

outward substances doubtless takes place in a far less degree in a living body, than in inanimate flesh, with relaxed and empty vessels; not only by reason of the resistance made by the circulating juices, but likewise because perspiration is most probably performed by the same pores. Consequently insensible perspiration is nothing more than a humid exhalation from the body, which necessarily takes place with regard to every moist porous substance that is exposed to the external air.

THIS exhalation from the human body is therefore much greater in a dry and serene air, than in a calm and close, or moist air; being necessarily increased and diminished with the exhaling power of the atmosphere, tho' in a very different proportion

muriatic scurvy; and also of those that appear, after death, on the bodies of persons who are speedily carried off by the West-Indian bilious fever; as I have observed in my treatise on the scurvy, which was published in 1755, (pages 59, 60, and 75.) The vibices, in the last-mentioned circumstance, Dr Hillary mistook for gangrenes of the skin.

tion. For in very moist, or hazy calm weather, when there is little or no humid vapour exhaled from the earth, or from wet cloaths that are exposed to the open air, the exhalation from the body would quite cease, or be very inconsiderable, if it depended wholly on the exhaling power of the atmosphere. But the humid vapour which exhales from the body is, at all times, augmented, and kept up in moist, or calm hazy weather, by the native animal heat; and in some measure too by the propelling force exerted by the heart and arteries from the center towards the circumference of the body. Besides, the disposition of animal bodies to exhale is greater, and their tendency to absorb from the atmosphere is less, because they are generally of a moister temperature than the external air; for a sponge does not absorb any moisture from the air, unless its state or temperature be drier than that of the atmosphere.

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contraction and relaxation;

IT has been evinced by experiment that perspiration is greatly and quickly increased by the electrical shock, (Universal Magazine of Natural History, &c. vol. 1. p. 100.) and as a cold humid vapour may irritate the sensible fibres of the skin so as to induce some degree of a contraction of the pores; this immediate cause will necessarily lead to a diminution of perspiration in a moist atmosphere.

zine for April 1753, page 163,) which it would seem to effect by causing an oscillatory motion of the constituent fibres of the vessels, which will necessarily accelerate the filtration of thin humours by the transcolating pores.

IF close or hazy and calm weather, being temperate, as it is usually, is succeeded by an intense frost, colds, and catarrhal fevers will at once become frequent; but much more so if the frost is attended with a close or hazy and calm state of the air; the reason of which is sufficiently obvious from what is said in the foregoing. Frosty weather, in winter, is generally deemed salutary: it is certainly so if it be attended with a clear atmosphere, and is not preceded by weather that borders on the contrary extreme; but if it be attended with a close or hazy atmosphere, with hoar frost, the exhaling power will be inconsiderable, perspiration, by consequence, will be impaired, and colds, and catarrhal fevers that are sometimes of a malignant nature, will become rife; which was
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the case in the winter 1762 and 63, during the intense frost which began about Christmas, and continued till towards the end of January. Indeed that frost was preceded by a course of calm and hazy temperate weather, which occasioned a disposition to the catarrhal diseases which were general throughout the kingdom during the succeeding frost.

THE animal fat, particularly the subcutaneous, is doubtless not a little conducive towards preventing a too copious exhalation by the transcolating pores; which would otherwise happen, at least in clear, dry, and somewhat warm weather, with fresh breezes. Hence it is that fat people perspire much less than lean; and that the exhalation from the inward surfaces of the bronchia and pulmonary vesicles is so very considerable.

IT appears, from what is said in the foregoing, that chaffing must be very conducive towards promoting the absorption of a topical medicine; and that when it is applied

plied with a view to penetrate to a deepseated disease. the friction should be performed with due pressure, and continued some time. It may also reasonably be inferred from what is said that some portion of the most ^{min.} minute and moveable particles of ingested Aliments, and liquids are admitted at once into the mass of blood by the abovesaid pores. This last-mentioned hypothesis is not new; but I don't know that these pores, and their strong attraction of sea salt and some other substances, have been incontestably ascertained by any former author, only by attending to the manner in which butcher's meat is thoroughly salted; which was mentioned in a manuscript I sent, several years ago, to my worthy friend Mr Alexander Small, surgeon, in London. and afterwards in the aforesaid paper on dropsies, which was transmitted to Dr Pringle.

'Tis probable that the nutrition of the body and accretion are performed partly by means of the transcolating pores, which will give the nutritious particles access to all the most

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simple constituent fibres of the solids of the whole body. By means also of these pores, the solids, whose vessels become obliterate by age, will be nourished and kept moist, and flexible, which will very much contribute to prevent them from ossifying.

As the coats of all the vessels are perforated by the abovesaid pores, morbid humours, on growing thin, either from an incipient putrefaction, or a more laudable species of digestion or concoction, in consequence of being long impacted in some of the minute vessels. are transmitted thro' the sides of the obstructed vessels, and gradually tend outwards till they fly off by insensible perspiration; or they may be readmitted by the same pores into the mass of blood, or absorbed by the valved lymphatics; after which they will be discharged by urine, or sweat, or stool, or by some other emunctory; or determined to the surface of the body, or to the lower extremities in the form of a critical disease. It is often, partly, I suppose, in this manner, that nature performs the salutary

ry crises of diseases that result chiefly from obstructions in the fine vessels. The disease, by consequence, will be more or less obstinate, and vary as to its natural duration, according to the particular series of minute vessels that is chiefly obstructed; as is more particularly observed in my treatise on the scurvy, (page 64 to 69); the red blood being susceptible of the speediest tendency both towards concoction and putrefaction; and the finer juices being less prone to these changes, in proportion to their densities. Hence it is, that the stagnant blood, from a contusion, is soon transmitted thro' the sides of the obstructed capillaries, then forming an ecchymosis, and is soon after dispersed; that the obstructions that attend the muriatic scurvy, whose seat is almost wholly in the red blood, are, in general, soon and easily resolved; and that the land scurvy, whose peccant humour is generally of a subtil nature, and most apt to obstruct and irritate the finest vessels in the body, is often exceeding difficult of cure, and very liable to induce obstinate nervous disorders.

I shall observe here, by the bye, that the rise, progress, termination, and use of the valved lymphatics, are by no means a new discovery; which the following quotations from Hoffman will incontestably evince. (Frederici Hoffmani Medicinæ rationalis Systematicæ, tom. 1, pag. 237.) ‘Refluit
 ‘ semen retentum ex vesiculis feminalibus per
 ‘ lymphatica vasa ad sanguinis & lymphæ
 ‘ massam, ob vasorum lymphaticorum communicationem, quæ ipsis cum vesiculis feminalibus intercedit. Nam si flatus per
 ‘ tubulum in deferentia vasa fortiter immit-
 ‘ titur, non modo ipsæ seminales capsulæ,
 ‘ sed et totum lymphaticorum systema, cum
 ‘ ductu thoracico, inflatur.’ (Pag. 168 ad
 170, tom. ejusdem.) ‘Duplex est origo
 ‘ vasorum lymphaticorum; quædam ex ipsis
 ‘ arteriis prodeunt, alia ex porosa & cellulosa
 ‘ partium substantia nascuntur. Lymphatica
 ‘ quæ ex partium substantia oriuntur, aquo-
 ‘ sam succi nutritii partem resorbent ac reve-
 ‘ hunt ad cor. Quia lymphatica vasa ex
 ‘ substantia partium nascuntur, quæ ibi sub-
 sist-

‘sisttentem aquosam partem revehunt, hinc
‘dari ratio potest, quare ab usu fortiorum
‘purgantium, vel diureticorum, in cachecti-
‘cis, copiosum humidum ibi subsistens in
‘hos canales resorberi, & per intestinorum
‘glandulas expurgari possit. Revehunt vero
‘omnia lymphatica, ex universo corpore,
‘lympham suam ad capsulam lumbarem &
‘chyliferum ductum, in quem se exonerant.
‘Tres rami majores vasorum lymphatico-
‘rum, videlicet iliacus, mesentericus, & he-
‘paticus, capsulam constituunt; quæ vero ex
‘partibus superioribus lympham revehunt,
‘ipsi ductui thoracico implantantur. Causa,
‘cur vasa lymphatica per glandulas conglo-
‘batas transeant, hæc solertioribus anatomi-
‘corum videtur, ut fibrarum motricium con-
‘tractione, pressionem ac impulsu ipsi
‘lymphæ subministrent.’ Hoffman not on-
ly observed the analogy betwixt the lacte-
als and lymphatics, but even terms the for-
mer lymphatics, both above and in the fol-
lowing sentence, being precisely of the
same species with those that appear in o-
ther parts of the body. ‘Lympha adducta
una

‘ una cum chylo, quem etiam vehunt lymphatica, affunditur sanguini, ad dextrum cordis ventriculum remeanti, &c.’

HOFFMAN, indeed supposes that, besides the system of absorbent valved lymphatics, which rise from the cells, and the several interstices of the substance of the whole body, there is another system of similar lymphatics which spring from the extremities of the arteries where they terminate in the veins. But he was led into this mistake by Malpighius and Nuck (page 168.) ‘ Quod arteriæ in vasa lymphatica terminentur, vel ex eo dilucescit, quia flatus, vel liquor, aut argentum vivum, siphone per arterias immissa, experimento Nuchii & Malpighii, non tantum per venas, sed & per vasa lymphatica partium transeunt.’ However, this celebrated author’s account of the rise, progress, termination and office of the true absorbent lymphatics is sufficiently clear; and I am persuaded that the two eminent anatomists who, not long since, laid claim to this discovery, would have never assumed any pre-

pretension thereto if they had had the good fortune to have read the great Hoffman on this subject. Some share of merit is, nevertheless, due to Dr Hunter, in having observed that the injected wax never passes into the valved lymphatics unless the arteries burst; that, by consequence, these lymphatics that are so injected, are the true absorbents; and that there is not a distinct class of valved lymphatics that spring from the arteries: And as this fact is most probable a priori, there is greater reason to acquiesce in the truth of it.

X. OBSERVATIONS *relative to the Cure*
of the O P H T H A L M Y.

WILLIAM Childs, of Brotton, in Cleveland, aged 22, was seized, in June 1764, with a vehement ophthalmy, apparently from a scrophulous humour. The right eye, which was first attacked, was much inflamed; the cornea was whitish

ish and opaque; the eyelids were swelled, and shut, and discharged abundance of humor, which was partly ferous, and partly thick resembling pus. The left eye was also affected, but in a much less degree than the other. The patient was duly blooded, purged, and blistered; he took the Peruvian bark, and some other suitable alteratives; mild, cooling, resolvent, and repellent lotions were applied; and he bathed in the sea: but he reaped no benefit from this procedure.

I had proposed putting a seaton under the right side of the lower jaw, when I was first consulted; the patient then declined it, but was now, in the beginning of September, willing to have it done. On examining the spot where the seaton was to be introduced, I perceived a small moveable gland, which I determined first to extirpate; not only to rid the patient of it, but also in hopes the consequent discharge would be serviceable. In cutting out the gland I happened to open the external maxillary artery, which, being

a large branch, bled with great vehemence. I immediately filled the wound with fuz-ball, over that was laid some lint, with a compress, and thin leaden plate, which were retained with a proper bandage. It burst open, in five or six days after, when the patient, being costive, was straining at stool. His father, who is an eminent horse-farrier, restrained the hæmorrhage, by pressing on the wound with a finger, till I came. Tho' the stream of blood was now small, from a rupture of some part only of the united wound, yet I took up the vessel with a ligature, because I had some reason to believe it would have the effect I am going to mention. In four or five days after taking up the artery, the inflammation of both eyes, and the swelling of the eyelids of the right one disappeared; and the patient could open the right eye; but his eyes were yet weak and tender. In a short time after, they became quite strong, with the aid of the bark, and pouring cold water on the head every morning.

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THIS remarkable speedy recovery cannot be imputed to the hæmorrhage, for the patient had not thereby lost a pound of blood in the whole; besides, he had been plentifully blooded, soon after the onset of the disease, without being in anywise relieved by it; and the discharge from the wound which was soon healed, was inconsiderable. Wherefore the cure, I think, was owing, in a great measure, to the taking up of the artery, a considerable branch of which (*arteria angularis*) is distributed partly on the *musculus orbicularis palpebrarum*. The left eye, indeed, recovered with the other; but that was not greatly affected; and it was, perhaps, chiefly so by sympathy, from the vehement and painful inflammation of the right eye. The party's eyes are at present quite strong, and the pupil of the right one is very little injured by the disease.

HAVING observed that the eyes are often specked, and that the sight of an eye is sometimes irrecoverably lost, from a violent inflammatory defluxion; and that a
seaton

seaton in the nape of the neck doth seldom produce an effect speedy enough to prevent these bad consequences ; especially when the peccant humor is more or less of a scrophulous nature ; I was led, about twelve years ago, to make trial of a seaton under the lower jaw. I have since often practised it, particularly in scrophulous ophthalmies ; and it hath very seldom failed to relieve the eyes most effectually in a short time, so as to prevent, as much as possible, the abovesaid bad effects. When one eye is affected, or much more so than the other, I introduce the seaton under the same side of the jaw with the affected eye, between the external jugular vein and the larynx. But when both eyes are nearly alike affected, I introduce the seaton under the chin.

THE most obstinate and dangerous ophthalmia is that which is compounded of an external and internal inflammation of the ball of the eye. This dangerous disease is attended with intolerable pain in the affected eye, joined with a vehement continual
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symptomatic head-ach, a slow fever, and watching. I met with one case of it in a publican, aged 56, at Water-fall, nigh Guisbrough. The usual remedies against an ophthalmy had been administered by an apothecary at Guisbrough, without doing him any service. I was consulted in the seventh week of the disease, when the patient was greatly reduced, and, to appearance, in extreme danger. I perceived that the ophthalmy was induced by a translocation of the peccant humour of the sciatica to the affected eye. After a fruitless attempt to solicit a return of the sciatica to its former natural seat; by opening a vein in the foot; cupping, scarifying, and blistering the outside of the thigh; and the warm pediluvium impregnate with mustard; I introduced a seaton under the side of the lower jaw, which, in a fortnight's time, carried off the disease: But the sight of the eye was quite lost. As the good effect of the seaton was so speedy, a more early application of it, after premising the necessary evacuations, would probably have saved the eye.

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W H E N a scrophulous ophthalmy is attended with strumæ in the chaps, or under the ears; one of the strumous glands on each side should be opened with a caustic; the consequent discharge will soon relieve the eyes, with the aid of proper alteratives, and pouring cold water on the head every morning; and thus render a seaton under the lower jaw unnecessary, as I have, in some cases, experienced. The wounds may be converted into issues, that may be kept open till the cure is compleat.

I have, in many instances, observed that blistering the head, from the crown to the forehead, and keeping the blistered part open a few days, doth make a most powerful and speedy revulsion, so as often, in a short time, to carry off, or abate very much a vehement moist ophthalmy, and that it is far more efficacious than blistering the hind part of the head, or the nape of the neck, or the chaps or behind the ears. After the disease is much abated, and on the
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decline, bathing in the sea, or pouring cold water on the head every morning, is of most signal service.

ÆTHIOPS mineral is an excellent medicine in many cases of this disease. I have given it with observable good success in some obstinate cases, mostly in children and youths; sometimes with the addition of a little cinnabar of antimony, and a few grains of nitre. At first, I usually administered the decoction of the bark with it; but I have since observed that it is, in general, as successful without the bark, as with it; and that the bark seldom does any service till the inflammation is on the decline. It is, however, proper to give the decoction of the bark with the æthiops, in scrophulous cases, and to patients of a puny relaxed habit of body. The efficacy of æthiops, in this disease, was, long since, observed by the famous Dr Cheyne; and I have often had the pleasure of seeing this observation verified in the course of my practice; which I thought proper to mention here, because the æthiops

ops has long been in disrepute; from the character given of it by some chemists, and writers on the materia medica; who form their judgment of it, chiefly from the chemical analysis of sulphur, and the intimate union of the sulphur and quicksilver in this composition. They farther urge that, supposing the æthiops contained principles that were likely to be of service as an alterative, it can do very little, because some of the volatile parts of it only can enter into the lacteals. But there is no reasoning against facts confirmed by experience, which is the grand rule in the practice of medicine. We know that sulphurous mineral waters owe their extraordinary virtues chiefly to a small proportion of a volatile sulphur which they contain; and from long and almost daily experience I know that flowers of sulphur, or even the common crude sulphur in powder, is one of the best medicines for internal use, we are possessed of, in very many disorders which derive their origin from the peccant humours peculiar to cutaneous eruptions, or the land-scurvy; and also in
many

many scrophulous cases; and that it not only is an excellent corrector, but also a most powerful effluent, with regard to such scorbutic humours. I am of opinion that the sulphur alone is more efficacious, as an effluent and specific antiscorbutic, than when combined with the crude mercury; because its particles are varnished over by the mercury, so as to confine, in a great measure, their volatile principle, which alone is susceptible of entering the lacteals, and the transcolating pores: But, as an attenuant and deobstruent, the æthiops mineral is more successful than the sulphur alone.

THE æthiops, if taken in pretty large doses, sometimes proves laxative; and some may ascribe its good effects, in an ophthalmy, to its opening quality. It may, no doubt, be of service by operating in that manner, especially in patients that are costive and plethoric; but I have observed the same good effects from it, in this disease when it did not prove in the least opening. But when the ophthalmy is very obstinate, the
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Æthiops will often fail of success, without the aid of a vesicatory on the head or a seton under the lower jaw, and other necessary evacuations. These powerful resources, however, are often necessary, at least towards making a speedy and perfect cure, as before observed.

An Elixuary composed of equal parts of Flowers of Sulphur & Cream of Tartar, mixed with Syrup of Sugar, is also serviceable in an ophthalmia, particularly for Adults of a costive habit; and especially if the Disease results from a Torbulie or Rheumatic humors.

SOME have acquired a prejudice against the internal use of sulphur, by reason of the arsenical principle it is supposed to contain. The powder of tin, which is as harmless as the sulphur, is liable to the same objection a priori. They may also, with like reason, aver that sulphur must be highly deleterious to the human body, because by much the greater part of it consists of a ponderous vitriolic acid, or oil of vitriol. Indeed some adults, particularly women of a delicate habit, that are subject to hysterics, or that have tender bowels, and some from a peculiar constitution, are griped by sulphur; but it is remarkable that it almost always agrees well with children and youths. In this particular it resembles honey, which gripes some adults intolerably, but rarely disagrees with youths.

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THE opacity of the cornea lucida, and specks, occasioned by an ophthalmia, when this disease is not highly serophulous, do often disappear with the inflammation, or soon after. I have often known small specks recede spontaneously, after continuing two or three years, in consequence of an increase of the strength of the tender eye. Wherefore we ought not to be too hasty in having recourse to sharp corrosive topics, with a view to destroy the speck; especially as they are most apt to solicit a fresh defluxion upon the eye. Besides, unless the speck be prominent, austere astringent corrosive applications should seem very improper, as they have, in general, no resolvent quality, exclusive of what may sometimes result from their astringent property. The most powerful attenuant, resolvent, and deterfive mild medicines, whose particles are very minute, and susceptible of being readily admitted, by the transcolating pores, to the local affection, should seem the most proper for carrying off specks, and recovering the transparency of the cornea. I carried off a small speck

speck of two years standing, in a short time, by a frequent use of the following mild lotion. R. boracis pulv ℥ss. sacch. albiss. ℥i aq. rosar. ℥ii. m. fiat collyrium in oculum affect. frequenter instillandum. I was led to make trial of the borax, by reason of its extraordinary power in often quickly destroying the idiopathic thrush incident to new-born children; which is an undoubted proof of its being possessed of the above-mentioned medical qualities in an eminent degree. I have often given the borax internally, with observable success, where a medicine possessed of the abovesaid qualities was indicated, particularly in slow fevers with a furred tongue; and, as it is of a temperate nature, it may likewise be given in acute fevers, in a small dose: Wherefore I often add some grains of it to the neutral saline mixture; and sometimes I combine it with nitre and camphire, in cases where such an attenuant and diaphoretic medicine is required. But the most efficacious destroyer of a small prominent speck, is the aluminous powder, composed of burnt allum and fine loaf sugar. The burnt alum is possessed of atte-
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nuant and inciding qualities ; and I have given it, with success, blended with simple oxymel, in a pituitous asthma, with the addition of some spirit of sal ammoniac, to blunt a little the sharpness of the oxymel, and render it more attenuant and diaphoretic.

THE following well known lotion is the best I have yet experienced for an ophthalmy: R. Aq. font. ℥viii. Album. ovi unius. Alum. rup. ℥i. m. s. a. A little of this should be dropt into the affected eye every night and morning ; and it should be covered with a linen rag folded and moistened with the lotion. When a little ulcer is formed in the cornea lucida, the cure will depend in some measure on proper topics.

I have met with two cases of a slight but painful ophthalmy, with dimness of sight ; which was occasioned by a very small hard black substance, resembling a small seed, that was fixed in the cornea lucida. One of these, which occurred two years since, I
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dislodged with the point of a lancet, and a manifest impression was observable where it lodged. In attempting to take off the other, which occurred lately, it was loosened by a quick motion of the eye-ball against the upper eye-lid. The eye, in both cases, was speedily relieved after freeing it from that offensive particle. In a late magazine, I read an account of a similar case, that was treated by a French surgeon, who affirms that the abovesaid particle is an insect.

XI. *Observations on the ILIAC PASSION, particularly with regard to the Cure.*

AUTHORS generally advise copious bleeding in the iliac passion, or inflammation of the small intestines, without making a proper distinction betwixt the different species of it: I shall only mention their chief distinguishing symptoms. The most common species of this disease, which I shall term the first, hath an affinity with a phlegmon, or an unmalignant pleurisy, or

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an inflammatory rheumatic defluxion. It is attended with a pretty large, strong, and somewhat hard, but not very quick pulse, and a tough fizy blood. The patient seldom vomits in the first stage of the disease; he has little or no sickness or anxiety at the præcordia; and bears bleeding well, and is relieved by it: Wherefore this disease seldom proves fatal under good management.

THE second species, which is the true malignant iliac passion, is the result of a vehement erysipelatous inflammation of the ilium, or some portion of that gut. Exclusive of the intolerable pain at the seat of the disease, it is attended with vomiting, tho' not always at its onset; extreme sickness or anxiety at the præcordia; insatiable thirst; great and sudden debility; and a pale dejected countenance. The pulse is small, weak and quick; the febril heat is inconsiderable, and most remiss in the extremities; and sometimes there is a true lipyria, or a sense of great heat in the bowels, while the exterior parts are cold, and bedewed with a cold

cold clammy sweat; at least in the second stage, when a mortification of the inflamed portion is about to commence. This disease ends in death, sooner or later, before the fourth day.

THE third species, which is most incident to youths betwixt 15 and 20 years of age, is of a middle nature betwixt the two former sorts; and is rather more dangerous than the first species, but far less so than the second. In this, too, the blood is florid and unfizy; the face is flushed; the febril heat is pretty uniformly distributed throughout the body; the tongue is whitish; and the thirst is great; the pain in the umbilical region is vehement; but the patient has little or no anxiety, or languor, and vomits not, or but seldom, in the first stage of the disease. I met with one case of this disease in a youth, aged 16, which was supervened by some degree of an emprothotonus, and was cured by the procedure specified in the sequel.

AN intro-susceptio may induce an inflam-

flammation of an intestine, or it may supervene an inflammation: But I am of opinion it is most commonly induced by a flatulent colic; because the contracted portion of the gut may easily be admitted into the contiguous inflated portion.

THE cure of the first species is performed by repeated bleeding, agreeable to the indications; mild demulcent laxative glysters; a dose or two of the saline purge specified in the sequel; mild, grateful, cooling, emollient, demulcent and diaphoretic diluents. But nothing is so efficacious in this disease as new butter-milk, with all, or great part of its butter. It should be churned occasionally in a bottle for this purpose; the patient drinking a tea-cup full of it frequently. This is more grateful, cooling, laxative and refreshing than sweet oil, which is apt to be nauseated by those who have not been accustomed to the use of it; and I have often ordered it with great success in all inflammatory disorders of the bowels, with constipation. The warm half bath is also exceeding serviceable in this species.

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The belly may be embrocated with a mixture of equal parts of sweet oil and vinegar, and covered with flannel; which is preferable to wet epithems; it may, sometimes, however, be fomented, with advantage. The purge here recommended is the following: *R.* Sem. Anis. $\mathfrak{z}$ ij. coque ex aq. font. Ibi .spatio $\frac{1}{2}$ horæ; in colatura solve Sal. cath. amar. $\mathfrak{z}$ iss Mann. opt. $\mathfrak{z}$ ss. cola iterum, et divide in quatuor partes æquales, quarum bibat unam omni semihora. This purge, with a calomel pill, should be administered at the onset of the disease, after a copious bleeding; and also when it is on the decline; and may be aided by a laxative glyster, or two, if necessary. It is the most efficacious purge in obstinate constipations, as is observed in the foregoing; and most effectually evacuates indurated fæces, especially after the exhibition of oily medicines. In that interval, the body should be kept open with new churn-milk and butter, aided by glysters, as is above directed: And, in case of vomiting, or a very obstinate constipation, a dram or two of crude mercury may be taken in each draught of the butter

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milk; and a large vesicatory should be applied on the inside of one thigh.

THE second species of the iliac passion, which is exceeding obstinate, and speedily fatal, proceeds from the most acute species of the erysipelas, which is attended with little tumour, and unfizy blood, and is most apt to terminate in a mortification, and will not admit of copious bleeding. As this species of the erysipelas is moveable, and apparently results from an exceeding acrid and inflammatory scorbutic humour, that has a near affinity with the peccant humour of an inflammatory gout, the following procedure should seem to promise the greatest success therein. At the onset of the disease, let six or seven ounces of blood be drawn from one foot, or three or four ounces from each foot. After that, without loss of time, cup and scarify the superior and anterior portions of the thighs, contiguous to the groins, and apply large blistering plaisters upon them: At the same time, administer a dose of a solution of Sal. cath. Am. and Manna, in a weak decoction of aniseed; with

with a calomel pill: the patient taking it at three or four draughts, as is directed in the foregoing; and let its operation be forwarded with glysters. But if that purge should be thrown up, immediate recourse must be had to the churn-milk and butter; the patient drinking half a small tea-cup full of it, with a dram or two of crude mercury, every half hour. During this course let a laxative glyster be injected every two or three hours; embrocate the belly with Spt. Sal. Amm. Vitriol. dulc. Ol. Amygdal. dulc. a. p. æ. and cover it with warm flannel; and let the legs and feet be wrapped in flannel, and kept warm with a hot brick, or a large bottle full of hot water, if necessary. As soon as the body is opened, and the inflammation abated by this procedure, a pretty full dose of the abovesaid purging draught should be administered with a calomel pill: After that, the patient will require little more than a proper diet; which should consist of thin light foods till the fibres of the intestines shall have recovered their natural tone.

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THE quicksilver, exhibited in this manner, produces its good effects, by its cooling, resolvent, repellent and laxative qualities; it is not only of itself somewhat laxative, but is of singular service by determining other mild laxatives downwards, when the peristaltic motion is more or less inverted; and as it is not necessary to exceed five or six ounces of it, and often not above two or three ounces when taken in this manner, it can do no harm by its weight; which it is very apt to do when given in a large draught with a view to force the obstruction in the inflamed gut. By this procedure I have cured some cases of an iliac passion, with unfixed blood, that probably would have proved fatal in four or five days, or perhaps sooner: But the most malignant and speedy fatal cases of this disease will often, I believe, exclude every resource yet discovered. If cream, for churning, cannot be had, or if the patient be troubled with flatus, the crude mercury may be given in sweet oil.

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THE third species of the iliac passion, tho' the blood therein is rarely, in any degree, fizy, will admit of more copious bleeding than the second species. A vesicatory on the inside of one thigh is generally of service here; the half warm bath gives great relief; and the Thebaic tincture, tho' improper, or at least ineffectual in the two preceding species, is here of signal service. The aforesaid saline purge, with manna, and a calomel pill, generally operates in this species, if given in due time, before the peristaltic motion is reversed; after which the body may be kept open with churn-milk and butter, or sweet oil, or lenient demulcent laxatives, and glysters; and the crude mercury will seldom be necessary. But if the disease, after the body is opened, should be of long continuance; or if the peccant humour, after being partly, or wholly dislodged, should shift from one part to another; alcalized mercury, in small dozes, to the amount of ten or fifteen grains a day, will be of great service; provided the attendant fever be not acute, with a white or furred tongue. It is of service,

vice, in this species, to promote breathing sweats, with the neutral saline mixture impregnated with camphor, or weak white-wine whey; or with water gruel or balm tea, impregnate with a little saffron and white-wine: These should be drank hot after coming out of the half warm bath, which will very much contribute to cause a tendency to sweating.

XII. *Of the INFLAMMATORY SWELLING of the COATS of the BLADDER.*

THIS disease, which is compounded of an erysipelas and œdema, is most incident to men between forty-five and sixty years of age. Tho' it is not very unfrequent, several cases of it having occurred in the course of my practice, mostly in the close of autumn, yet it is not taken particular notice of by any author that I know. It begins, like all other inflammatory and feverish disorders, by unusual chilliness, which is attended with an obtuse pain in the region of
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of the bladder: A circumscribed hard tumor of that organ soon becomes manifest, the pain increases, and a strangury commences; with some anxiety, or oppression at the præcordia, a fever, and great thirst. By the third or fourth day, the hard tumor reaches as high as the navel, is of an oblong or oval form, and apparently about the size of a pig's bladder when full blown. The patient has a continual desire to make water, and voids about a spoonful, and often some drops only of pale urine at each effort. The superior portion of the rectum is compressed by the enlarged bladder; which sometimes prevents the descent of the fæces, and the ingress of glysters; for the most part, however, there is some little passage left for thin fæces; and in some cases, when the swelling is of a less size, the patient is easily purged.

IF the swelling is very considerable, and begins not to subside before the eighth day, especially if the blood is unfizy, an ischury commences, and the disease proves fatal on the 11th or 12th day from its onset. This
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ischury, being induced by a considerable swelling of the coats of the bladder, which prevents the ingress of the urine, from the ureters, constitutes a third species, which is different from either a true or spurious ischury.

T H E R E are two species of this disease : In the one, the erysipelas is prevalent ; the pain is violent, and attended with a large and somewhat hard pulse, and tough fizy blood ; the cure of it is performed chiefly by repeated bleeding ; and the disease very seldom proves fatal, unless the patient is old, and of a weak constitution, or bad habit of body. After the height of the disease, the hard swelling subsides by very slow degrees : Sometimes it does not quite recede in four or five months ; and while any tumor remains it is attended with an incontinency of urine or an inability of retaining it long. In one man, aged 45, the hard swelling of the bladder, after being much reduced, terminated in a schirrus, with incontinency of urine, which continued till he was carried off, two years after, by a slow fever.

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IN the other species the œdema should seem to be prevalent, since the pain attending the hard swelling of the bladder is less vehement than in the former; amounting only to an obtuse pain, joined with great oppression or uneasiness at the seat of the disease. In this species the blood may be either a little fizy, or not fizy at all; but when it is florid the case is more dangerous, and most apt to terminate in a fatal ischury. A weaver in Ayton, in Cleveland, aged 46, had this disease, with a somewhat fizy blood, without being confined to his bed; but the hard swelling of the bladder was not very great. After the inflammation was abated by two moderate bleedings, and suitable opening and cooling medicines, the tumour began to subside. He had the incontinency of urine a long time, and the tumour was five months in going quite off. A farmer, in Wilton, aged about 50, was seized with this species of the disease, with unfizy blood. In this case the hard circumscribed swelling was very large, so as to prevent the ingress of glysters; the pulse was not quick,
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nor the patient's thirst great; he had a sense of great oppression and uneasiness, but only an obtuse pain, at the seat of the disease; his blood was florid and unfizy; bleeding did him no service, nor did the half warm bath give him any relief. On the 7th day, the strangury terminated in an ischury and on the 11th he expired. Before his death, the swelling subsided a little, so as to permit the descent of thin fæces, and the ingress of glysters.

IN this disease, very little urine can get into the bladder; and the cavity of this organ is very much diminished by the swelling of its coats; as I have observed by introducing the catheter. The seat of the disease should seem to be chiefly in the outward coat of the bladder, which the peritoneum affords it, and in the cellular membrane which connects it with the muscular coat.

THIS disease is easily distinguished from a true ischury. In the latter the tumour in the hypogastric region is tense, yielding and

and elastic, and never hard, nor so prominent, or manifestly circumscribed as the hard inflammatory tumour of the coats of the bladder. The true ischury is attended with intolerable anxiety or uneasiness in the hypogastric region, without any acute pain above the pubes; and it generally begins at once, either from a spasmodic constriction of the neck of the bladder, or from a small stone; and very rarely by an antecedent strangury, as in the above-mentioned inflammatory disease. The procedure that succeeded best with me against this disease is the following:

IN the first, or most inflammatory species, with fizy blood, the cure depends chiefly on repeated bleeding, agreeable to the indications, as is already observed. The body should be opened, as soon as the disease begins, with new churn-milk and butter, or sweet oil mixed with a solution of manna, aided by glysters. As soon as that is done, administer a full dose of Sal. cath Am. in a weak decoction of aniseed, with a calomel pill; and repeat this purge occasionally.

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The patient's drink should be cooling, demulcent, resolvent and diaphoretic ; but he should drink sparingly till the urine begins to come pretty freely away. The tumour in the hypogastric region may be chafed frequently with Spt. Mindereri warm, and covered with flannel ; and the half-warm bath, which is of service in this species, may be used once or twice a-day. If, by means of due bleeding, and these remedies, the tumour begins not, by the fourth or fifth day, to diminish apace, apply a large vesicatory on the inside of one thigh ; and let the body be kept soluble with the following electuary, which I have ordered with observable success. R. Elect. lenitiv. ℥j. Flor. Sulph. Tartar Solubil. Cremor Tart. a. ℥ss. Hydrargyr. (cum Terebinth. Venet. pauxillo extinct.) ℥ij. Pulv. Jalap. ℥i. Syr. Rosar. solutiv. q. s. ut fiat Elect. de quo capiat mag. n. m. parvulus mane et vesperi, indies ; vel quantum sufficiet ad alvum liberam servandam.

IF, after the ceasing of the inflammation, and attendant fever, a small indolent
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tumour remains, with incontinency of urine, the following pills, which, in this circumstance, have been most efficacious, may be administered. R. Sapon. Hispan. ℥i. Mercur. alcalizat. ℥ij. Balsam. Copaib. q. s. ut fiant pil. quarum deglutiantur iv. omni nocte et mane, superbibendo decoct. Cort. Rad. Bardan. ℥vi. These pills, and the chaffing of the region of the pubes with Spt. Mindereri, or a solution of Spanish sope. should be continued till the remaining tumor is quite dispersed.

THE party, during this course, should eat sparingly of butcher's meat, and live chiefly on milk, and vegetable foods; persisting much in the use of such vegetables as are emollient, resolvent, and diaphoretic; such as boiled greens, asparagus, parsnips, turnips, celeri, water-creffes, dandelion, and other salading, mustard, eschalots, garlick, ripe fruits, fruit-pies, and the like; abstaining from salted meat, dried or salted fish, cheese, ale, and undiluted spirituous liquors. The most suitable drinks, in this case, are, molasses-beer medicated with fir-tops; weak punch

punch acidulated with the juice of Seville oranges; white wine negus; porter, and the like.

THE cure of the second species, if the blood is in no wise fizy, and the tumour is large, will depend chiefly on making a powerful revulsion by the application of a large vesicatory on the inside of each thigh, at the onset of the disease, after one moderate bleeding from the foot; the belly being kept open, if possible, throughout the course of the catarrhal disease, as is above directed.

THE above mentioned regimen is recommended, not from the observance of its efficacy in resolving hard tumours, but in compliance with the usual practice in similar cases. But as the soap pills had an observable good effect, perhaps the alkaliescent diet, such as Dr Chittwick directs to be taken with his lithontriptic, would be more proper.

XIII. *Of the* CHRONIC DYSURY.

THE symptoms of the dysury do so much resemble those that attend a stone in the bladder. that skilful physicians have often mistaken the former disease for the latter. Indeed, in some cases of the dysury, particularly where it is complicated with a strangury, or spasmodic constriction of the neck of the bladder, or a discharge of ropy mucus, searching, at least with a finger, is absolutely necessary in order to ascertain the disease. In general, however, they are easily distinguished; because the dysury is rarely attended with the following symptoms peculiar to the stone. 1. A great difficulty of making water, and its coming away sometimes drop by drop. 2. The patient seldom ejects the urine with a free and uninterrupted stream till the whole is voided. 3. He commonly urines more freely in a horizontal than in an erect attitude. 4. He generally complains of a
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sense of weight and uneasiness in the bladder. 5. He has sometimes violent fits of continual pain, in the bladder, or in its neck, either from a symptomatic inflammation of the villous coat of that organ, induced by the friction of a rough stone, or by the stone being partly fixed in the neck of the bladder.

THE dysury is most incident to persons above 45 years of age. In this disease, when idiopathic, and unattended by a tumour at the neck of the bladder, or a constriction of it, or of the urethra, or with a copious excretion of ropy mucus, the urine is voided freely, and in a full stream; and the patient has no acute pain, except in urining, and for a short time after; and, at these times, the pain is sometimes more violent, particularly in the glans, than in the case of a confirmed stone; nay, what is more surprising, the urine is often more apt to become bloody, from exercise, such as walking, or riding on horseback, and the discharge of blood is greater, in the former disease, than the latter. Indeed, in some cases

cases of the dysury, the effusion of blood returns periodically every second, or third, or fourth week; having, in this case, some analogy with periodical inward piles. In the dysury, the retentive faculty of the sphincter of the bladder is very weak, from the rheumatic or scorbutic defluxion upon it, which creates that disease; wherefore, the patient can seldom retain his urine long, but urines frequently, and many times in a night, generally with excruciating pain; which makes him extremely unhappy; especially as this disease often continues for months, and sometimes years; and very seldom yields to the procedure that is usually recommended against it. Some persons, indeed, have much less pain than others; and after voiding bloody urine, or urine of a chocolate colour, the pain in making water, and after it, is generally much abated. The frequent micturition, however, is, for the most part, owing, chiefly, to the acrimony of the peccant humour, at the seat of the disease, which excites a frequent desire of making water; and, by causing frequent spasms of the capillary arteries, is most apt to induce bleed-

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ing. It is sometimes, but seldom, attended with a discharge of ropy mucus, which, in urining sometimes puts a sudden stop to the entire discharge of the urine, so as to perforate a stone.

THE chronic dysury is occasioned by an inflammatory or rheumatic affection of the villous or inward coat of the bladder; but chiefly in its lower portion, towards the neck of that organ, and in the inward extremity of the urethra. This local disease, for the most part, is the result of a rheumatic or scorbutic humour: In peasants, and other hard-working people, it is commonly occasioned by a translation of the peccant humour of the sciatica to the inward coat of the bladder: In persons who live luxuriously, or that are addicted to the gout, it proceeds from a gouty humour: It is sometimes occasioned by the scorbutic humour peculiar to some cutaneous disease, when influential; In women it is most commonly induced by the abovesaid humours, in consequence either of a morbid suppression, or
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an entire cessation of the menses; and in this sex is often exceeding obstinate: And some times it is excited partly by means of an old venereal taint.

As the defluxion, which constitutes the immediate cause of this disease, very seldom terminates in an ulcer, it should seem to have an affinity with a lippitude, or an ophthalmy. But am inclined to believe that the dysury is often occasioned by the above-said humours being obstructed in, and irritating the finest vessels, without any apparent inflammation; as is daily observable in local rheumatisms; and as it happened in an incurable case of a most excruciating dysury, mentioned by Hoffman (tom. 4. pag. 486.) under which the patient, aged 40, had laboured six years before it proved fatal. It very much personated a stone joined with an ulcer in the bladder; and the physicians whom he had consulted were of opinion it was the product of that combined cause. It appeared, on dissection, that the coats of his bladder had acquired an extraordinary

ordinary thickness, and its blood-vessels were very large; but in it there was no ulcer, or stone, or gravel, nor any manifest signs of inflammation; yet the capillary arteries might have been turgid with blood, as they are in an ophthalmy, when the dysfury was violent.

THE idiopathic dysfury is usually aggravated in the warm months; partly from an increase of the relaxation of the fibres of the bladder, which necessarily increases the defluxion upon the coats of that organ; and partly because the urine is generally hotter, and more alcalized in summer, than in winter: In that season, too, it is most apt to be supervened by hæmorrhages, or bloody, or chocolate coloured urine. In some particular habits, the defluxion, that creates the dysfury, is apt to induce an ulcer in the bladder; and in others the hæmorrhage is so frequent and profuse as to bring on a fatal cachexy and dropsy. When the coats of the bladder are much thickened, and its veins become varicose, as in the case narrated by Hoffman, the disease is probably incurable.

A SYMPTOMATIC dysury is often induced by the irritation of the villous coat of the bladder, chiefly in its most depending portion contiguous to the rectum, and about its neck, from a rough stone; which sollicit the abovesaid humours to these parts; or induces some degree of an inflammation or excoriation of the inward coat of the bladder. In this case it is usual to prescribe laxative, emollient and lubricating medicines; which relax the fibres of the bladder, and increase the symptomatic disease; and if scope is taken in such a case, it must aggravate that disease by its acrimony. The *Uva ursi*, which is powerfully astringent, is sometimes serviceable in such cases, by bracing the fibres of the relaxed and inflamed villous coat, and by consequence dispersing the symptomatic inflammation, and rendering the inward surface of the bladder less irritable.

THE dysury is sometimes attended with some degree of the hypochondriac affection, from the sympathy of the nerves: Sometimes

times it is only a symptom of the last-mentioned disease ; and in this case is commonly attended with a spasmodic constriction of the sphincter of the bladder, or of the urinary passage ; or with some degree of a stranguery. In some few instances, the rectum is affected in the same manner as the neck of the bladder, or with internal piles ; and the frequent desire of urining is joined with a tenesmus ; and the patient has extreme pain in going to stool as well as in urining. In a gentlewoman aged 52, the bladder, vagina and uterus were alike affected ; and the bowels were affected by sympathy, so as to occasion some degree of the hypochondriac disease. The menses had left her, which increased the obstinacy of this great disease. She had taken a great variety of medicines, by the best advice, to no purpose, but would not submit to a salivation : The disease, however, gradually decreased as she became less subject, by age, to a periodical plethora.

AFTER making trial of all the medicines that are usually recommended in this dif-

disease, and in some similar cases, to no purpose whatever ; I had recourse to a gentle salivation, with a view not only to resolve the obstructions formed by the peccant humour in the seat of the disease, but also to determine that humour upwards, and make the most powerful revulsion from the affected bladder ; and it produced the desired effect. By this method I have cured five patients of an inveterate dysfury ; two of whom had undergone courses of medicine, which were advised by physicians of the first eminence, without being in the least relieved thereby.

IT is remarkable that, in this disease, as in the spasmodic belly-ach, the symptoms do wholly cease as soon as the chaps are swelled, and the mouth is somewhat sore, and before the salivation is well begun. This method of cure has hitherto failed me only in one violent case, which was attended with a copious discharge of dense ropy mucus, and very much resembled the fatal case already mentioned, which is described by Hoffman. Indeed, all those who were cured by this procedure have since, at times, had

had returns of the dysury; but these relapses were, in general, slight, and of short duration, and easily suppressed by a judicious procedure.

I HAVE always raised the spitting by unction, having found it impracticable to do it with calomel, which never fails to purge vehemently in this disease, tho' given with an opium pill. I have, however, observed that purging once or twice with calomel, before commencing the unction, was of service. The salivation is also often difficult to be raised by unction in this disease.

IN some cases, after carrying off the dysury, I have sunk an issue in the inside of one thigh, a little above the knee; which is conducive towards preventing a relapse; because the peccant humour, being movable, particularly when it partakes of a gouty or rheumatic nature, is most apt to be determined to a part, in the lower extremities; that is weak, sore and most irritable.

THE hæmorrhage is never induced by the salivation, an effect which some might ap-

apprehend would result from the attenuant, and forcing quality of the mercury ; because the bleeding is the product of the partial obstruction or inflammation, and of the acrimony of the peccant humour ; which is resolved, and the acrid humour is determined upwards, and carried off, by the mercurial course.

BUT if the patient is old, or of a weak constitution, a salivation should not be attempted, unless the disease eludes the power of other suitable remedies, and is apparently dangerous, or not likely to recede by age. In that case, I would recommend the following procedure. Let the patient drink eight ounces of lime-water impregnated with a strong decoction of the roots of the great water-dock, in the morning fasting, an hour before dinner, and at bed time daily, blending a little milk with each draught of it ; and taking, with the morning draught, the bigness of a nutmeg of an electuary of the powder of *Uva ursi*. This course should be continued till the disease is subdued ; always resuming it on the appearance of any symp-

tom of a relapse. The patient's common drink may consist chiefly of a decoction of the leaves and flowers of mallow, impregnated with a small proportion of rum and milk, and sweetned with sugar of roses. Some blood should be drawn from the arm, or foot, previous to this course; and an issue should be sunk in the inside of one thigh a little above the knee; the patient drinking sparingly of generous liquors, and taking very moderate exercise. By this procedure I cured a gentleman in Guisbrough, aged 61, of a dysury, attended with frequent returns of bloody and chocolate coloured urine. He sometimes voided a little reddish sand in the urine, which, by its sharpness, aggravated the dysury; wherefore the lime-water was sometimes also impregnated with pellitory of the wall. He had, before that, by the advice of an eminent physician, who apprehended the disease was owing wholly to gravel, taken laxative, emollient and lubricating medicines; which increased the discharge of bloody urine and the dysury.

W H E N this disease is attended with a
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frequent desire of urining, and greatly disturbs the patient's repose, the following draught is very serviceable. R. Tinct. Thebaic. gut. xx. Camphor. (in gut. xx Spt. Vitriol. dulc. solut.) gr. i. aq. Petroselin. ℥vi. syr. sacch. ℥ij m. f. haustus, hora somni sumendus, et pro re nata repetendus. Slight relapses are sometimes carried off by this draught only, with a proper regimen.

THE following contracted mixture is often serviceable in a slight dysury, from a translocation of some portion of the peccant humour of the sciatica to the bladder. R. Balsam. Copaib. ℥vi. ol. Terebinth. ℥ij. m. Sumantur gutt. xv, ex infusii Galegæ ℥vi. omni nocte et mane.

A PUBLICAN, aged 71, had laboured some time under a painful dysury, attended with a frequent discharge of a purulent humour, with a mixture of blood, in the urine. I cured him with the solution of corrosive sublimate, after which he was attacked with the sciatica, which, in some time, yielded to suitable remedies. He hath since had no return of the dysury.

IF the patient is subject to costiveness, glysters are, in general, preferable to lenient purges, which are apt to increase the defluxion. The patient may throw up the former occasionally with a small syringe. When laxatives are judged necessary, the following electuary is most suitable in this case. R. Elect. Lenitiv. ℥iss. Flor. Sulph. ℥i. Cremor. Tart. Pulv. Uvæ ursi aa ℥ss nitr. ℥i. Camph. gr x. syr. Ros. solutiv. q. s. ut fiat Elect. de quo capiat q. n. m. hora somni et mane sequente, pro re nata. An electuary of this sort is usually prescribed with success in the inward piles, which proceed from a defluxion similar to that which often gives rise to the dysury; which, as is already observed, is sometimes attended with these piles.

AFTER the cure, the party should submit to some restraint in point of diet, in order to guard against relapses. He should abstain from salted meat, or whatever is difficult of digestion, or high seasoned; and be somewhat abstemious as to drinking;
taking

taking little and very moderate exercise, till the weakened fibres of the bladder shall have recovered their natural tone.

XIV. *Of* ST VITUS'S DANCE.

THIS disease is most incident to young persons betwixt six and twelve years of age, and more so to girls than boys: It generally makes its onset in the spring, or after the winter solstice; and derives its origin, for the most part, from the peccant humours peculiar to the land-scurvy, to which young persons are very subject: It is sometimes, but seldom, occasioned by worms; and, in one instance, was induced by drinking green tea to breakfast, as I was informed. Tho' it is not very unfrequent, and is an obstinate, and great disorder, yet few medical writers take any notice of it.

I HAVE met with five cases of it, exclusive of two relapses, within five years past. One of these patients was a boy, aged seven
years;

years ; the other four were girls betwixt six and ten years of age. In this disease, which partakes of the natures both of a palsy and convulsions, there is a continual alternate gentle contraction and relaxation of all or most of the muscles of voluntary motion of the whole body. The head, tongue, lips, body, arms, and legs, are continually in a gentle motion, which has more the appearance of being voluntary, than convulsive and involuntary. The party falters in his speech ; he can carry nothing in a direct line to his mouth ; he walks with great difficulty, and by unequal paces ; and is feeble, and totally relaxed. The motion ceases not, but is somewhat abated in sleep ; the judgment is not impaired, unless the disorder takes place in a very high degree ; there is no uncommon thirst ; nor any sense of pain ; the appetite is tolerably good ; and the party sleeps pretty well.

THIS disorder, if suffered to run its course, or rather if improperly treated, gradually increases till the motion becomes quite general and very considerable ; with
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an entire privation of the proper use of the extremities, and of the tongue; and, in this case, the sleeps become unsound, from so great an incessant motion; and the judgment at length becomes impaired. I have not had an opportunity of knowing what might be the consequence of so great a degree of this disease, if left wholly to nature: It might possibly end in a nervous fever, with a delirium, and this in death; or in an imperfect paralytic affection, or a confirmed but small degree of the abovesaid involuntary dance, which might continue a very long time, even during life. It is, however, probable that most cases of this disease, in good constitutions, would cease spontaneously, in some time, under good nursing, and a proper diet; or, at least, after the summer is well advanced; as palsies often do, as well as many other obstinate diseases which spring from scorbutic or rheumatic humours.

T H E eldest of the abovesaid girls, when she was brought to me, had the disease in the high degree abovementioned: previous
to

to its onset, an itch-like eruption had been imprudently repelled with the sulphur ointment. She had undergone a long but fruitless course of medicine; and was three weeks under my care before the disease began to give way; after that, it receded by very slow degrees; and the motions quite ceased by the ninth week from the time of her coming under my care: But her legs and arms continued weak for some time after. One of those girls recovered in a short time after voiding two very large round worms, by means of the vermifuge mixture mentioned in the sequel. The other two girls, who had also been unsuccessfully treated before I was consulted, recovered sooner than the first-mentioned girl, after beginning with the procedure hereafter specified. One of these girls, living in Guisbrough, had a slight relapse in the beginning of the following spring, in 1766; from which she recovered spontaneously, in some time, after taking the vermifuge mixture, and the electuary mentioned in the sequel. The boy was somewhat longer in recovering, than either of the two last mentioned girls: He voided
twelve

twelve long round worms, by means of the abovesaid vermifuge; but as the disease was not in anywise abated after the expulsion of the worms, it cannot be supposed to have been occasioned by that vermin. He relapsed the ensuing spring, and was cured of both attacks by the procedure hereunder mentioned.

THE best and most powerful vermifuge for children, against long round worms (see Essay on the Medical Const. of Gr. Britain, &c. page 329 to 341) was first administered to each of these patients, on two or three successive days; not only with a view to expel worms, but also to vomit the patient: For that vermifuge generally proves more or less emetic, at least when taken, in a pretty full dose, in the morning fasting; it is also purgative. After that, they persevered in the use of the following electuary, till the disease was almost quite subdued; excepting the girl who was cured by the vermifuge.

R. Flor. Sulph. ℞iss. Pulv. Rad. Pœon. Valer. Sylvestr. aa ℥iij. Cinnabar Antimon. ℥ij. Mosch. Castor. Russ. aa ℥i. Syr. Sacch.

Y

q. s.

q. s. ut fiat elect. de quo capiat cochlear. minutum mane et vesperi, indies; superbibendo haustulum infusi Herb. Galegæ. Some grains of camphire rubbed with an equal quantity of nitre was sometimes substituted for the musk and castor; but the latter seemed preferable to the former. As soon as the disease was on the decline, or if it proved obstinate, the following mixture was exhibited in lieu of the infusion of Galeg. R. Decoct. Cort. Peruv ℥vi. Aq. Menth. faitv. ℥ij. Tinct. Croci ℥i. syr. sacch. ℥i. m.

WHEN the disease was so much declined as to be scarce manifest, the electuary was omitted, and the tincture of the bark, impregnated with some drops of the oils of lemon and juniper, was taken, in small doses, in cold spring water sweetened, at the medical hours, or the abovementioned mixture, in lieu of it, till the party's strength was quite recovered. The eldest of the abovesaid girls bathed in the sea, at this period of the disorder; but the other four patients were cured without bathing.

WHEN

WHEN this disease is recent, and is increasing, or in nowise declined, the cold bath, I'm inclin'd to believe, will often be injurious. One of the abovesaid girls, living in Guisbrough, was advised to use the cold fresh water bath, before she came under my care: The disease was instantly increased by it, which obliged her parents to cause her to relinquish it after the third immersion. I was informed that a girl, under this disease, living nigh Yarm, was bathed in cold fresh water, by the advice of a physician; which not only increased the disorder but induced a delirium. Yet the sea-water bath, in hot weather, may have a different effect; it being remarkably effluent, with regard to young people, so as often to solicit an eruption to the skin, as is observed in the sequel; unless the patient be so weak as to be chilled thereby: But in order to prevent this bad effect, and forward the former good one, a tea spoonful of the tincture of the bark should be taken in a little cold spring water, just before each immersion.

BUT

BUT if the disease is old, fixed, and confirmed, and therefore not apt to increase, the cold bath, and chiefly the sea may be of more service than any other remedy. A young gentleman attending the Rev. Mr Kitching's school, at Skelton, in Cleveland, aged 2 years, hath, for some years past, had an imperfect St Vitus's dance, or a nervous weakness of that sort. He is weak, and walks and talks badly; his hands are unsteady, and have sometimes the gentle motions peculiar to this disease; yet his rational faculties are sufficiently strong and acute: He hath reaped more benefit by bathing in the sea, in summer, than by any other remedy.

IF the disease is very obstinate, a vesicatory applied on the nape of the neck, and after that on the os sacrum, may be of service; and the dose of the Peruvian bark should be increased. It may sometimes also be of service to embrocate the nape of the neck and spine with camphorated spirit of wine, every morning. But I cannot conceive on what prin-

principle some eminent physicians recommend repeated bleeding and purging in this disease ; which partakes of the nature of a palsy, and is most incident to tender young girls ; and am inclined to believe that some cases of it that have become exceeding obstinate, and of very long duration, have been rendered so by that unaccountable practice.

XV. *Of the* KINK-COUGH *or* HOOPING-COUGH.

IN the summer and autumn 1755, which were extraordinary rainy, the kink-cough was epidemical amongst children, in Whitby, and in almost all the high and most healthy country in Cleveland : It began at Whitby, in spring, the same year, before the rainy weather commenced, and travelled westward, with uncommon rapidity, till it reached the low aguish land in Cleveland, on the east side of the river Teese ; and on the borders of that land it terminated this year.

This

This disease was so epidemical in those places, that it missed few or none, except those who had formerly undergone the disease; and many adults and some old people, who till then had escaped the kink-cough, were invaded by it. Tho' it was, in general, vehement, and of long duration, yet scarce one patient in 80 died thereof.

IN the succeeding summer and autumn, the kink-cough appeared in the villages, in the low country of Cleveland, which it had not reached the preceding year. Its epidemic progress was then very slow, and the disease exceeding favourable; tho' a great deal of rain had fallen betwixt the middle of March and the beginning of May, and in the course of the three following months. This year, some upgrown people were also invaded. Among children, not many kinked; these, for the most part, having had only a sharp cough, that recurred at short and unequal intervals, like a simple cold; but the face was somewhat pale, seldom livid, previous to, and reddened, and swelled a little under each coughing fit: The patients vomit-

vomited sometimes in coughing; and the phlegm that was expectorated, resembled that which is peculiar to the kink-cough. Very few hooped or crowed; and some had only the short dry cough, with some hoarseness, which usually precedes the kink-cough. The duration of the disease was, in general, proportioned to its degree of vehemence: Wherefore the most vehement cases, this year, seldom exceeded eight or nine weeks.

FROM what is said it appears that this disease, like the small-pox, and measles, has no sort of dependance on the weather; and is so far from being induced, or aggravated by the outward causes of agues, that it did not invade the adjoining aguish country, when most epidemical, and was uncommonly mild therein, the year following.

THIS is all that is extant of the observations I committed to writing on this disease, in the course of three epidemic attacks of it, in different places, in 1755, 56 and 57; the rest of the manuscript having been torn
by

by mistake. However, I shall here subjoin the most essential particulars that occur to my memory, relative to the progress and cure of the kink-cough ; the rather, because authors give only a superficial description of this disease, and have not, I think, attended to the true genius of it.

THE kink-cough is generally preceded by a short dry cough, attended commonly with a little hoarseness ; resembling a cold before concoction, or the commencing of expectoration. This dry cough continues usually about a fortnight, before the patient begins to kink (that is, to have convulsive coughing fits) or to expectorate phlegm. After that, the increase and state of the disease when pretty vehement, commonly take up four weeks ; after which it decreases by very slow degrees, and quite ceases about the end of the 12th week from the accession of the antecedent dry cough. Some violent cases continue four or five weeks longer ; and some mild cases terminate in seven or eight weeks. Before its height or decrease, the phlegm is ropy and viscid, sometimes livid,
or

or thin, or blended with a thin sharp serum, and difficult to expectorate. At the height of the disease, the phlegm becomes more concocted, and, in the decrease of it, is white, thick, and less viscid, and more easy of expectoration ; and, in this last stage, the coughing fits recur at longer intervals, and are less violent, than in the two preceding stages. After it comes to a natural period, catching cold will sometimes induce a relapse ; and some patients have frequent returns of it from taking cold ; but such relapses are always slight and of a short duration.

SOME few, as is before observed, have only the antecedent short dry cough, which is analogous to the eruptive fever of the measles or small-pox ; and these get well in two or three weeks ; but if they expectorate phlegm, the disease, tho' unattended by convulsive coughing, may continue much longer, or to the seventh or eighth week. Others kink, or have convulsive coughing fits ; and some both kink and crow ; and this last is the most vehement degree of the disease.

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THIS

THIS disease also resembles the small-pox and measles in the three following particulars, viz. 1. It never invades the same person twice. 2. It is as infectious, with regard to predisposed persons, as either of the abovesaid eruptive diseases. 3. There is not any medicine, or procedure yet known, that is capable of stopping its progress; or that will finally and safely suppress it before it hath run its natural course. If any procedure is capable of putting a stop to the disease, I am of opinion it can only take place in the first fortnight, during the antecedent dry cough, before the patient begins to kink. I have thought that I had, by a particular procedure, exhibited in that period of the disease, in two or three cases, prevented the accession of the convulsive cough.

THE kink-cough is most fatal to children under one year. Some of these, when greatly weakened by the disease, become unable to expectorate the phlegm; upon which it accumulates in the bronchia, and suffocates the tender patient. In others, the vehement

hement coughing fits induce fatal convulsions. Scarce any child, under two years of age, hath sense or strength to spit out the phlegm; they generally swallow it, after which nature relieves them by vomiting, which ejects the phlegm. The disease rarely proves fatal to children above three years of age, who were healthy before its onset: Those above that age, who die of the kink-cough, are carried off chiefly by a fever which sometimes attends it, during its increase and height; and which is often of the miliary kind. Tho' those that expectorate pure blood, or bleed at the nose, in the height of this disease, generally recover; yet the disease commonly holds them a long time; and they are often tender for some time after it ceases.

SOME eminent physicians have affirmed, that this disease may be cured chiefly by bleeding and purging: Others say it will yield to emetics, laxatives, powerful attenuants and corroborants, with bleeding occasionally; and some aver, that the Peruvian bark is as certain a cure in the kink-cough

as in the ague. I am inclined to believe, with due deference to those learned physicians, that they may have been misled in forming their judgments of the effects of such medicines, in this disease, by the different appearances of it, as to its degrees of vehemence, and various natural and final terminations. Hence it is, that some persons are believed by the vulgar to have a peculiar power of curing this disease by charms: For if the patient, under a mild attack of it, or in its decrease, is charmed, the favourable appearance of the disease, or its speedy termination after that, is imputed to the charm. Indeed it should seem that healthy country children are at no great loss for the want of medical aid in the kink-cough since scarce one in eighty of them is carried off by it, under good nursing.

BLEEDING, (in some few instances, particularly when the patient hath a florid complexion, and is strong, and above three years of age; or if he has a strong and somewhat hard pulse, or an acute fever) laxatives, gentle emetics, attenuants, pectorals,

rals, incrassants, anodines, diaphoretics and corroborants, if well timed, and suited to the genius of the disease, which, like that of other infectious epidemic diseases, may vary, more or less, in different places, years and seasons, may often be serviceable; and I have administered them, as palliatives, preservatives, and supporters of the strength, with some success. But, I must own, I never was so fortunate as to make an absolute cure, in any case of this disease, by a copious exhibition of the Peruvian bark; that is, to suppress it at once finally, as we cure an ague with that valuable simple medicine; nor could I be assured that the natural duration of the disease was ever much shortened by any procedure I put in practice; tho' it might have contributed to prevent bad consequences, which otherwise might have happened; which, in truth, is the most that can be expected, from the most judicious procedure, in many other diseases as well as this.

NOTHING, most certainly, is more necessary for young children, in this disease,
than

than gentle vomits, when they vomit not at all, or but seldom, in the coughing fits: This procedure appears from what is said, to be perfectly agreeable to the nature of the disease; and I have often observed its good effects. In such cases, I ordered a tea spoonful of the following mixture, or as much of it as was sufficient to cause the child to vomit once or twice, to be given once a day, or as often as it seemed necessary: For children vomit easily, without being much strained, or weakened in the least thereby; and some of them puke with every violent coughing fit. with advantage, since, by that means the phlegm is wholly ejected. R. Oxymel. Scillit. Simpl. aa $\mathfrak{z}$ ss. Spt Sal. Amm. $\mathfrak{z}$ ss. m. capiat cochlear. minut. vel q. s. ad vomitum ciendum, pro re nata In the like cases, too, it is proper to give a lenient purge, consisting partly of rhubarb, or a solution of manna in a decoction of rhubarb and aniseed, at proper intervals. But those children who often vomit in the close of the fits of coughing, and are temperate in their bodies, do very seldom stand in need either of emetics or laxatives.

THE

THE Peruvian bark, which is the best supporter of the strength, should be combined with pectorals, and administered as a stomachic, and corroborant, throughout the course of the disease. R. Cort. Peruv. ℥i. Rad. Irid. florent. Eryng flor. Tussilag aa ℥ss. coque, ex aq. font ℥x. ad dimid. colaturæ adde aq. Menth. fativ. simpl ℥i. Tinct. Croci ℥ss. Syr. Sacch. ℥vi. m. bibat. infans cochlear. parvul. duo vel tria post quemlibet tussendi paroxysmum. If the child be feverish, the bark may be omitted till the fever ceases, or abates; and the saline mixture of lemon juice and salt of wormwood, diluted with spring water, the acid being prevalent, or cold spring water, may be administered in lieu of it.

BUT when the bark is given, in the increase, or height of the disease, in a large quantity, and especially if it be taken in substance, with a view to suppress the kink-cough, it dries up the phlegm, in some measure, and renders it more viscid, and the coughing fits become more violent and straining to the patient: In the decrease of
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the disease, when the final period is yet remote ; or if the intervals betwixt the coughing fits are short, it produces nearly the same effect, but is less hurtful. But when the decrease is much advanced, and the intervals of the fits are long, the bark may sometimes suppress the disease, without any bad consequence ; and it is most effectual in preventing relapses, and other bad consequences, and strengthening the body : For the debility, and bad state of the juices, induced by a long and severe attack of the kink-cough, do, in some few instances, degenerate either into a scrophulous or rickety affection, or into a pulmonary consumption ; unless the bark be administered, at least in the close of the disease, and continued till the patient's strength is quite recovered.

I HAVE been told by some sensible women whose children had been treated in the usual manner for the kink-cough, that nothing did them so much good as cold spring water, lightly sweetened with coarse sugar ; which they were suffered to drink freely, as often as they inclined ; I have often recommend-
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ed it in this disease, and usually direct it to be sweetened with honey; and to be acidulated with verjuice, or spirit of vitriol, in case of bleeding.

As the kink-cough rarely proves fatal, except in tender young children, the best advice I can give, with regard to this disease, is, that all those, for whom it may be convenient, in places where the kink-cough begins to reign, who have young children under two years of age, do remove them to a different part of the country that is free from the disease; and never suffer them to run the hazard of it till they are above two or three years; or at least not before they have got their eye-teeth; which usually begin to cut when children have attained the 18th month of their age, provided they are pretty healthy, and free from rickets. This precaution, however, is absolutely necessary with regard to children who are very tender, and stuffed in their breasts, or that are more or less rickety, or have been subject to fits.

XVI. *Of the JOINTED TAPE-WORM;
with an effectual Method of expelling it.*

THE tape-worm is often more injurious to health, than either of the other two sorts, particularly when the head of it is fixed in the villous coat of the stomach, or duodenum: But when it adheres lower in the intestines, or is lodged chiefly in the colon, it commonly occasions no great disorder, if the party is naturally strong and healthy. Those who are troubled with this worm, void some of the joints daily; and if there are two worms of this sort, or one that is very long, the party voids at the rate of ten or twelve of the detached joints, or cucurbitine worms, each day. The joints of this worm increase in breadth and length towards the extremity of the tail. The worms which form the lowermost joints being strong and lively, they separate themselves daily from the contiguous

iguous joints, and thus are voided single: The succeeding joints are gradually produced in length and breadth, and acquire more life and strength as they approach the extremity of the tail, so as to be enabled to disengage themselves successively from the concatenation. These live detached joints assume a somewhat different form from what they had before their disunion, and become longer and narrower, so as to resemble the seed of a gourd: But they can alter this figure, and become broader by contracting themselves in length.

THE gentleman mentioned in the sequel voided two of these worms, in April 1766; one of these had a sharp head, some small portion of which seemed wanting; the head of the other, tho' much broader, was compleat, having had two small hooks or fangs in its extremity, of a brownish colour. This worm having a small sharp head, or hooks in its head, which it fixes in the villous coat of the alimentary tube, and its body, which is covered with an exceeding viscid mucus, being flat, it adheres firmly by

a large surface to the villous coat; which makes its expulsion exceeding difficult; especially as it is not killed by any of the common worm-medicines: Even the powder of tin, which is the only medicine that seems at present to be relied on against this worm, is quite unequal to the expulsion of it so far as I have hitherto experienced: Wherefore the discovery of a vermifuge that will most effectually and speedily expel this monstrous vermin must be extremely desirable, and will supply a material deficiency in the present practice of medicine.

THE gum gambogiæ, which is the true and infallible vermifuge of the jointed tapeworm, was mentioned in a former publication (Essay on the Med. Constit. of Great-Britain, page 330); but as I had then experienced the efficacy of this gum in one case only, it was there only mentioned in a cursory manner, which might occasion it to be overlooked, or disregarded by medical readers; wherefore I thought it proper, on farther experience, to give a more particular recommendation of this noble vermifuge.

A GENTLEMAN, aged about thirty, master of a Whitby ship, had been, about a year, troubled with the jointed tape-worm, when he first, in January 1764, desired my advice. He had taken all the common worm-medicines, and the tin-powder, without effect. As I intended to give the powder of tin a fair trial, I ordered three drams of that powder to be taken by the patient, twice a day, for twelve successive days; during that time he rode out frequently, and purged every fourth day with Pil. Cocciaë combined with calomel. This course having produced no good effect, and the tin having caused some uneasiness by lodging in his stomach, it was relinquished. After that he was directed to take a pretty full dose of the following pills every third day.

R. pil. cocciaë min. ℥ss. gum. gambog. ʒij. calomel. ℥ss. syr. de rhamno q. s. ut f. pil.

After taking four doses of these pills, he voided two flat worms; one of which was compleat, and thirteen feet in length; the other was shorter, and a considerable portion of it towards the head was wanting, of which

which a pretty exact judgment may be formed by the size of the joints. However, the curcurbitine worms were no more to be seen, and the party flattered himself with hope that he had got intirely rid of this vermin; he, nevertheless, had some light feeling of the former symptoms, and, soon after going to sea, and in the seventh week from the expulsion of the abovesaid worms, the cucurbitines began to be voided daily as usual, which, most probably, were the product of a speedy elongation of the head that remained; and the usual symptoms excited by this vermin increased. These symptoms were, chiefly, the following: Pain and sickness at the stomach, most commonly in the morning, and sometimes after eating a plentiful meal; a short dry cough; sometimes gripes, or inappetency; a pain and heaviness of the head, with dimness of the eyes; short and unsound sleeps; debility and lowness of spirits; a pale complexion, sometimes inclining to yellowish; and sometimes a pain in the right side at the seat of the liver.

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THE succeeding winter, after the party, came from sea, he was seized with a vehement cough, attended with a little fever, nausea, inappetency and watching, and was much reduced by this disorder, so as to be unable to bear the operation of the gamboge; and he thought that the head of the worm was fixed in the lower portion of the gullet, where he had a constant uneasy sensation. In some time after, on eating some ham to dinner, and riding out after it, the worm descended lower; after which he became easy at the stomach, the cough abated, and he recovered his strength so as to be able to go to sea. Next spring, this present year, he came to Skelton, and put himself under my care. I resolved now to pursue a somewhat different method from what I had formerly practised. Before the exhibition of the gamboge, the party took the size of a small nutmeg of the following electuary every night and morning. R. sal. martis. ℥ij. pulv. sem. fantonic. ℥ss. pulv. jalap. ʒi. rhei. ℥ss. calomel ℥iss. mellis. ℥iij. m. f. elect. Tho' this proved laxative, as
was

was intended, yet, by the sixth day, the calomel began to affect his mouth; wherefore it was laid aside, and he began to take the gamboge; and being now pretty strong, he was more able to bear a full dose of it. The first dose, consisting of 15 grains of the gamboge, was made into three pills with extract of gentian; of these he took two at going to bed, which operated sharply in the night, and one early next morning. After an interval of one day, he took another dose of 20 grains of the gum, made into four pills with the abovesaid extract; whereof he took two at bedtime, and two early next morning: These operated briskly in the night, and during the greatest part of the day, and killed and loosened the worms. On the following day, in the morning, he voided one entire worm twelve foot long, and another in the afternoon eleven feet in length; some small portion of the head of this last seemed to be wanting. After an interval of two days, he took another full dose of the gum, and a fourth in five days after that; but no more worms were voided; and the cucurbitine worms quite

quite disappeared. The party was now healthy and free from all his former complaints, exclusive of some little uneasy sensation which still remained in the umbilical region.

THE party, soon after, went to sea, and, in two months from the expulsion of the last-mentioned worms, the uneasy sensation in the umbilical region increased, and began to be attended, at times, with gripes, upon which the cucurbitine worms began again to be voided daily as usual. In October following, after coming from sea, he again applied to me. I ordered him three doses of gamboge made into pills with the extract of gentian: The first dose expelled a compleat worm, four feet in length; he took, after that, the other two doses; the cucurbitine worms disappeared after the expulsion of the entire worm; the party became quite free from all his former complaints, and is at present (15 Dec.) in perfect health; and, apparently, quite cleared of this troublesome vermin.

THE above-mentioned electuary was given with a view of either killing or weakening the worms, previous to the exhibition of the gamboge; but it was observable that it did neither, because the cucurbitine worms were as lively as usual on the sixth day of taking the electuary; wherefore it cannot be supposed to have done any service. But the cucurbitine worms that are expelled by the gamboge are always voided dead; and this drogue is, perhaps, the only one yet known that kills them.

THIS gum is, perhaps, the best of the drastic purgatives, and is of excellent use in many other disorders as well as the above-mentioned; especially for some robust men who are difficult to purge. The aforesaid patient had always good spirits, and a keen appetite after its operation, and was very little weakened by it. It is necessary to observe that the party should lie in bed till this purge begins to operate; for on sitting up, and stirring about, it is apt to excite vomiting, especially if the full dose be taken at
once,

once, which will carry it mostly, if not wholly upwards. It is also the most powerful vermifuge, for adults, against long round worms, as I have in some instances experienced; and in this case is preferable to the mixture of equal parts of the syrup of the juice of bears-foot and the tincture of jalap or rhubarb; for tho' this mixture doth most speedily and effectually expel round worms in children and youths, preferably to any other vermifuge yet known, yet in adults it is less efficacious.

XVII. *An Idea of the LAND-SCURVY, extracted from a Treatise, in Manuscript, on this Subject.*

THE common outward predisposing causes of the land-scurvy are, a cold and moist temperature of the air. and much close or hazy, and changeable weather, chiefly in winter and spring: Wherefore it is most incident to the inhabitants of nor-
their

thern climates. These causes give rise to a laxity of the fibres, a crude or imperfectly assimilated state of the juices, an impaired perspiration, more or less of a cacochymy, or the land-scurvy, and a great variety of ills which thence result.

THE peccant humors which constitute this disease, should seem to consist partly of chyle that is never thoroughly assimilated, or converted into wholesome juices, and partly of some portion of the excrementitious parts of the circulating juices, or such particles of them as become at length unfit for use, and in some measure noxious. These peccant humors, on being long retained in the body, acquire the scorbutic virulence, and a disposition of being exceeding difficult of concoction, and separation from the sound juices, and of expulsion by the emunctories. These humors vary, as to their nature, or particular acrimony, and give rise to different diseases, in different persons, according to their personal habits, natural temperaments, and constitutions,

tions, their ages, diet, the air they breathe, and their manner of life.

THE diseases induced by more or less of the scorbutic cacochymy, in these different circumstances are, chiefly, the following; namely, an habitual land-scurvy, or scorbutic affection of the first class: Slow scorbutic or nervous little fevers of long duration, which are often attended with hypochondriac and hysteric symptoms; scorbutic or erysipelatous defluxions; scorbutic rheumatisms; scorbutic eruptions of various sorts; the gout; the sciatica; palsies; hypochondriac and hysteric affections; a cachexy and dropy; or an atrophy; besides many other diseases which are induced by the above-said humors, in these different circumstances, in concurrence with particular local, or accidental auxiliary causes, as I have more particularly observed in a former publication.

THE cancer is the most virulent species of the land-scurvy; and the wandering, or partial rheumatisms that are sometimes occasioned by its peccant humor, on being re-assum-

assumed into the mass of blood, do constitute the most virulent and insuperable species of the scorbutic rheumatism. The seat and primary cause of the cancerous humor is unquestionably ascertained ; since, as the cancer always affects one or more glands, and is preceded by a schirrus, the first obvious internal cause of it is a stagnation of lymph, or white juices in these glands ; which, by being long retained in the body in a state of stagnation, acquire the cancerous acrimony and virulency ; and at length infect the whole mass of blood with a cancerous humor ; which is wholly insuperable, because it will not admit of concoction, or separation from the sound juices ; and therefore can never be totally expelled by the emunctories. I have observed that an occult cancer or painful schirrus is speedily formed by the translation of the peccant humour of an old scorbutic ulcer in the leg, or of an inveterate moist herpes, to one of the breasts, in women. This not only shews the analogy of the scorbutic humour with the cancerous, but also that the formation of a true cancer doth very much depend

pend on the particular conformation of the organical part where the peccant humor is lodged.

THAT the humors peculiar to some cutaneous eruptions, and certain virulent scorbutic ulcers, have an affinity with the cancerous, is manifest not only from the above-said instance, but also because the peccant humours peculiar to the land-scurvy are, in general, exceeding difficult of concoction; and, for the most part will not admit of that change till they have first undergone an eruptive crisis, in the form either of a cutaneous eruption, scorbutic little boils or furuncles, an erysipelatous inflammation, a regular gout, or a vehement sciatica. The peccant humour is, in due time, according to the nature of the critical disease, concocted, in a great measure, by the heat and inflammation attending these diseases, so as to render it susceptible of flying off by perspiration, or of being separated from the sound juices, and expelled by the emunctories. But the cutaneous scurvy, is, in general, of much longer duration than the regular

lar gout; because the peccant humours peculiar to most eruptions are more difficult of concoction than the arthritic humour; and partly because the miliary glands are commonly affected, and their secretion is vitiated in obstinate cutaneous eruptions. It is also observable that the sciatica is often of much longer continuance than an inflammatory gout; because it is not attended with any manifest inflammation, but rather with a coldness and numbness of the affected thigh, in the first stage of the disease; but, in the height and decrease of it, the native heat, in the seat of the disease, is increased; which forwards the concoction of the peccant humour, and the recess of the partial disease.

T H E R E is reason to believe that the principal share of the peccant humors peculiar to the land-scurvy, consists of vitiated white juices; since they are, in general, of a subtil nature, most difficult of concoction, and most apt to affect the nerves; and are the chief source of all nervous disorders, except such as are induced by great affections

tions of the mind ; or by a great depravity of the juices in the last stage of fatal fevers ; and some other accidental causes specified in the sequel. Hence also it is, that the nutritious juice is often much vitiated in an habitual scorbutic affection ; that the slightest wounds, in that case, particularly in the legs, are healed with difficulty ; and that some persons become emaciated even when they have a good appetite.

T H O' the remote accidental internal causes of the abovesaid scorbutic diseases, consist, chiefly, of a laxity of the solids, indigestion, indigestible food, an impaired perspiration, a plethora, inanition ; yet when any of those diseases are hereditary, they do, I suppose, originally spring from a particular conformation of the organical parts of the body, or from a fault in some particular organs, and most commonly, I suppose, in those that serve to prepare the chyle and the bile ; which disposes them to generate and retain the particular humour, which gives rise to the hereditary disease.

THE several appearances of the scurvy, in general, may be comprehended under three classes. The first consists of the land-scurvy in its most crude state, when the peccant humour is pretty uniformly distributed throughout the habit, or chiefly affects the abdominal viscera, or some other noble part; and is recent, or not yet so changed, by the powers of the body, as to be susceptible of an eruptive crisis, or of being expelled by the emunctories.

THIS habitual land-scurvy, or scorbutic affection, is attended by the following symptoms. The party is heavy, listless, feeble, often low spirited, and his memory is sometimes impaired; he is less prone to sweat, and the complexion is paler than usual; the appetite, in some, is impaired, in others it is pretty good; in some, the skin is dry, harsh, and tightly braced; but most commonly it is flaccid, together with the subcutaneous fat and muscular flesh; the pulse is smaller, and weaker than in health, or somewhat below the natural standard; the urine, for the most

most part, is high coloured, and often scanty; and sometimes it is pale and copious; the sleeps, at least in an incipient scurvy, are often longer and sounder, yet less refreshing, than usual; for such long sleeps tend to increase the visciduity of the juices, and the languid disposition; and sometimes they occasion the party, if he takes little exercise, and has a good appetite, to become bloated with a loose watery fat, or to contract a fizy blood; others sleep badly in the forepart of the night, and are heavy, drowsy, and unrefreshed in the morning: The bile is generally inert, viscid and scanty, and sometimes it becomes acrid and much vitiate, which occasion many bad effects that tend to increase the habitual scorbutic affection: The party is generally costive, and troubled with flatus, which often tends upwards, as is usual in the hypochondriac affection; digestion is commonly more or less impaired; the stomach is often tumefied after dinner, and acrescent foods are apt to become sour therein; whence heart-burns, and belching up of much watery phlegm; and sometimes ropy phlegm is apt to breed
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in the stomach; some complain of sickness, or pain, or oppression at the stomach; some are apt to vomit after meals; and some have a profuse excretion of saliva. The nutritious juices are vitiated; and some become emaciated, even when they have a good appetite; walking briskly occasions an unusual shortness of breath; and, in some few instances, there is a straitness of the breast, or a confined respiration. If an acrid or hot scorbutic humour is blended with the sound juices, or is partly lodged in the coats of the stomach, the party has a febricula, with a whitish or furred tongue. In some cases there is a crackling of the joints, particularly of the knees; the skin of the hands, chiefly in the palms, becomes often coarse, and sometimes chapped; the slightest wounds are healed with difficulty; and if an issue is sunk in the leg, it is apt to degenerate into an ill-conditioned sore, with an ichorous discharge. Sometimes a few spots of a pale livid hue appear on the skin; but they are fleeting, and of short duration; sometimes, but seldom, large blotches of a dark red, or tumors of a pale or reddish colour, both attended

tended with itching, and different from the effere, appear on the extremities; these too are sometimes also fleeting and of short duration; and, in some few instances, there is a swelling of the ankles, with shooting pains in the legs, or a hard painfull swelling of the calves of the legs. In women, the menses are either quite suppressed, or scanty and irregular, which increases the disease; but if they have a copious acrid scorbutic humour in the blood, with eroded gums, they sometimes, from some degree of the scorbutic petechial dyscrasy, * have profuse evacuations of the menses, which return at short intervals, so as to occasion great debility, and nervous disorders from inanition; and frequently they are affected with the fluor albus.

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* By the petechial dyscrasy is meant here, and in other parts of this work, a certain dissolution or distemper of the blood, which disposes it to pass, by transcolation, thro' the sides of the vessels, and by some excretory tubes, so as to occasion livid petechiæ, vibices, spitting of blood, and sometimes bloody urine, or profuse hemorrhages.

T H I S scorbutic affection is most frequent in April and May, and the fore part of June, when there are few who have not some feeling of it: As it often resembles the hypochondriac affection, and may be deemed a small degree of this disorder, it is most apt, in some constitutions, particularly in those who are subject to a scorbutic humour, and in certain circumstances, especially after a quartan intermittent, to amount to a confirmed hypochondriac affection. It easily degenerates, when aggravated by certain auxiliary causes specified in the sequel, into the extraordinary scurvies of the third class; sometimes, without the accession of these causes, it terminates in a jaundice; and in persons of a weak or broken constitution above a middle age, it is apt to terminate in an atrophy, or in a cachexy and dropsy.

B U T if the peccant humour is almost wholly thrown outwards in the form of a cutaneous eruption, all the preceding symptoms disappear, and the party becomes healthy and alert. In persons whose manner of life subjects them to the gout, the peccant

cant humour which creates the abovementioned scorbutic affection, assumes a gouty nature; and as soon as a regular gout is produced, the habitual scurvy ceases, and the party becomes healthy, and has good spirits.

THE peccant humour is sometimes partly collected, and separated from the sound juices; but not being wholly prepared so as to admit of an eruptive crisis; or the powers of the body being too weak or languid to throw it outward in the form of a critical disease, it falls mostly on some particular inward part; or is moveable, and flies from one part to another; and thus induces obstinate hypochondriac affections; obstinate wandering rheumatisms; a chronic head-ach; an obstinate cough; asthmatic affections; a chronic dysury; a febricula; palsies; and many other obstinate diseases, which are often of long continuance, but seldom prove fatal to persons under a middle age, provided they are not aggravated by certain auxiliary external or internal causes. The diseases from this cause do also belong to the first class of the land-scurvy.

T H E

THE second class of the land-scurvy comprehends all the critical diseases which the scorbutic humour creates after it is separated wholly, or in a great measure, from the sound juices, and determined to the surface of the body, or to the extremities; such as cutaneous eruptions of various sorts, the gout, erysipelas, and sciatica. To this class also belong the internal diseases occasioned by the scorbutic humour, when, after such a crisis, it retires, and attacks some noble part.

IT is remarkable that the scorbutic humour, after having once formed an outward critical disease, generally acquires a much higher degree of acrimony, or virulence, before it is thoroughly concocted, than it possessed in its first crude state, or at any time before its expulsion outward; in like manner as vitiated lymph becomes more virulent by lying long stagnant in a schirrous gland, out of the course of the circulation. Wherefore the partial internal diseases induced by the scorbutic humour, after retiring inward, or being repelled by improper treatment,

ment, are more violent and dangerous, than those it occasioned when, in its first crude state, it was blended with the circulating juices, or was determined partly to some noble part. Indeed, in the former case, it may be more hurtful by having its active powers more converged, and falling wholly on some particular inward part.

THE erosion of the gums, incident to some persons living on shore, is, for the most part, occasioned by an herpetic humour; and is exceeding difficult of cure; for scorbutic humours are, with great difficulty, diverted from any place where they happen to fix; especially if the local disease be of long standing; which increases the effect of habit, and the weakness of the diseased part. Scorbutic ulcers, and moist herpetic eruptions in the legs, are yet more obstinate, at least in some particular habits, by reason of their dependent situation. But, as outward scorbutic diseases are often almost wholly local, some persons have eroded gums, and carious teeth, who, in all other respects, are tolerably healthy. In

the first and second species of the land-scurvy, already described, the gums are most commonly found: But when they are much eroded, or ulcerate, and most apt to bleed, the disease is a true scurvy of the third class, or has a tendency thereto.

THE inhabitants of low moist aguish countries are most subject to the land-scurvy; and chiefly to the obstinate chronic diseases which result from scorbutic humours in an influent state; the rather because their diet, in consequence of the richness of the soil of low countries, consists almost wholly of heavy, or badly fermented wheaten and leguminous foods, salted and smoke-dried beef and bacon, and fat baked meats; I mean with regard to the vulgar, who are most subject to the land-scurvy. The contrary, in a great measure, takes place with regard to the inhabitants of high and dry salubrious countries, with a light soil.

YOUNG children, 'tis well known, are far less healthy in populous towns, than in pure and fresh country air: Wherefore the coun-

country children, having stronger vital powers, become more subject to the eruptive scurvy, than the children in close populous towns; particularly to moist inflammatory eruptions, and the scorbutic itch: But the latter have often more or less of an habitual scorbutic affection, or the land-scurvy of the first class, from the retention of the humours peculiar to cutaneous eruptions: And this is the chief source of the convulsive fits, rickets, and other diseases, which prove fatal to near half of the London children under two years of age. Hence also it is that the small-pox, measles and whooping-cough are far more fatal to children in populous towns, than in salubrious country villages.

THE scurvies comprehended under the the first and second classes, may be termed ordinary, and those of the third class extraordinary scurvies. The ordinary land-scurvy, whose peccant humour, when thrown outwards, upon the surface of the body, or to the extremities, produces one of the afore-mentioned critical diseases, is very different

ferent, as to its aspect, and nature, from the true muriatic scurvy. The former depends on a peccant humour which, as is before observed, may either be blended with the sound juices throughout the body, or may be separated from these juices, and thrown almost wholly on some particular outward or inward part; and, being moveable, it may often, by a particular treatment, be either attracted, or repelled, or expelled from the interior to the outward parts of the body: And when it is separated, by the powers of the body, from the sound juices, and thrown upon the skin, or to the extremities, the party enjoys a good state of health, exclusive of the particular critical disease which thence results; provided the inflammation attending such a disease is not considerable, so as to excite some degree of a symptomatic fever. But, in the muriatic scurvy, there is no particular moveable peccant humour that will admit of the circumstances above-mentioned: This disease is a particular species of cachexy, arising from a general dyscrasy and depravity of the blood, joined with great laxity of the solids; but that is of
such

such a nature as to admit of being soon and easily cured by fresh vegetables, or ripe fruits only; whereby that particular dyscrasy is corrected, and the blood resumes its former salutary state; which it could not, I suppose, recover, if the distemper of the blood, in this habitual scurvy, consisted wholly in a somewhat putrid state of it; as some affirm. But the peccant humour of the abovesaid land-scurvy will not admit of any correction, or reassimilation to the nature of sound juices; or but in a very small degree; and, being exceeding difficult of concoction, it is often, with the utmost difficulty expelled out of the body; nay, some persons who live on the most wholesome foods, and breathe a fine air, are more or less affected with it during life.

WE now proceed to the extraordinary scurvies of the third class; but shall only just mention these scurvies, with their remote causes. Some malignant and dangerous scurvies are induced by the common outward causes of the aforesaid ordinary land-scurvies, in concurrence with other

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auxiliary causes, such as the following. Famine; unsound provisions; great anxiety, and despair; salted meat; salted and dried fish; heavy farinaceous and leguminous foods; the want of milk, and green vegetables; putrid water; foul air; laziness and confinement; fatigue and watching, and being much exposed to the injuries of the weather; a low marshy situation; particular constitutions of the air, with frequent rain, in the course of one, two, or three seasons; antecedent remitting and intermitting fevers that terminate by an imperfect crisis; very intense and long continued frosts in winter and spring; the transition from a cold, or temperate climate to the torrid zone, joined with salted meat, and other dense food; or the transition from a hot or temperate climate to a cold one. Hence the malignant scurvy which happened in Paris, in 1699, which is well described by Mr Poupert (Phil. Transf. No. 318. p. 323.) the petechial land-scurvy; various complications of the land-scurvy and the muriatic; and the true muriatic scurvy. All the scurvies of this class are attended with more or less of the petechial dyscrasy,

or

or of the dyscrasy peculiar to the muriatic scurvy.

THE peccant humour peculiar to the ordinary land-scurvy of the first and second classes, should seem to be formed chiefly by the union of a strong acid with a somewhat rancid animal oil, in various proportions: Wherefore it may, not improperly, be termed the acid, or rather sulphurous scurvy.

THE peccant humour that is thus formed, will scarce admit of re-assimilation, and must be exceeding difficult of concoction; which, I suppose, can only be effected by the acid being neutralized, or rather in some measure alcalized by a powerful action of the vessels, with a proportionate degree of native heat, long continued; which will occasion it to form a kind of sapo with its united oil; and being thus prepared, it will admit of being totally expelled by the emunctories. But it generally happens that the pulse and native heat are below the natural standard, and that the digestive and assimilating powers are weak, in this disease,
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when influent or habitual ; which very much retards the concoction of the peccant humour ; which, therefore, can often only be effected, as is before observed, by the powers of the body, either by very slow degrees in a long period of time ; or somewhat sooner with the aid of medicines that are warm, stimulating, bracing, attenuant, and aperient, joined with a proper diet, exercise, and a pure and dry air ; or more speedily by the inflammation induced by the scorbutic humour, when it forms an outward critical disease, especially as the powers of the body, in this case, are vigorous ; or by the supervention of a continued fever, or a regular vernal intermittent. In many instances, the peccant humour remains influent, or blended with the circulating juices for years, before it can be so prepared by the powers of body, as even to admit of an eruptive crisis ; and in some particular habits, especially in the decline of life, it is wholly insuperable.

XVIII. OBSERVATIONS *and* REMARKS
relative to some PARTICULARS in the
foregoing Essay; chiefly with regard to
the HYPOCHONDRIAC AFFECTION.

IT is observed in the sixth paragraph of the preceding essay, that the peccant humors peculiar to the ordinary land-scurvy do constitute the chief immediate cause of all nervous disorders; exclusive of those that are induced by affections of the mind, a great depravity of the juices in the last stage of fatal fevers, and some other accidental or constitutional causes: These causes are; chiefly, the following. 1. A sedentary life; especially if the party stoops much in reading, writing, or sewing; or leans, with his breast, against the table or desk in writing, by which respiration is in some measure confined. 2. The pressure of the breast-beam against the umbilical region, in weaving, chiefly after a plentiful meal. 3. The body being often too quickly cooled, or lying upon the

ground when much heated by vehement exercise, or hard work; especially if the party lives almost wholly on coarse heavy foods that are difficult of digestion and assimilation. This cause is most incident to hard-working husbandmen. 4. A large draught of water, or beer, or ale, drank cold, while the party is much heated by hard work, or vehement exercise; especially if he sits down, or remains inactive after such a cold draught. This powerful cause is also most incident to hard working people. Eating too much cold fruit has sometimes a similar effect, in persons of tender constitutions. 5. Spirituous liquors drank to excess. 6. Living too low; or strong green tea, or coffee drank daily in excess. 7. Immoderate chewing of tobacco. 8. Great fatigue and watching. 9. A tender and delicate frame of body, with lax fibres and weak nerves, or inanition. 10. Some remains of an old venereal taint, especially if the constitution hath been much injured by a frequent use of mercurials. But these causes are also more or less productive of scorbutic humours, which
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are the chief source of obstinate nervous disorders in general.

SOME of the most obstinate cases of the hypochondriac affection that have fallen under my observation, were induced by a large draught of cold spring water, or small beer, in the circumstance above mentioned. The cold water, in this case, probably occasions a coagulation of some portion of the blood in the veins of the stomach, or a tendency of it to that state; whence obstructions not only in that organ, but also in the spleen or liver: or, the nerves of the stomach may be so much chilled by the cold water, as to become obstructed, or deprived, in a great measure, of their vital power; the particular parts they serve will, of course, become, in some measure, paralytic; whence indigestion, a great variety of ills, and an obstinate hypochondriac affection: Or, it may occasion a *Scorbute Rheumatique* or *gouty humor* to invade the coats of the stomach; whence an *obstinate hypochondriac affection*.

IT is remarkable that such a cold draught, taken when the party is hot, and the skin bedewed with sweat, and relaxed, seldom produces any inward disorder, if the party is active after it; yet, sometimes, occasions

a rash, or the gutta rosacea, or a scabby, or scurfy eruption to break out upon the skin. In this case, the peccant humour of such an eruption, cannot be supposed to be generated immediately in consequence of the large draught of cold water: 'Tis more probable that the peccant humour was previously in an influent or latent state, in the body; but so prepared as to be susceptible, with the abovesaid accidental aid, of an eruptive crisis; which, in this circumstance, should seem to be effected by the corroborative, repellent, and diaphoretic or effluent qualities of the ingested cold water; the attendant sweating and relaxation of the skin favouring the eruption.

BATHING in the sea often occasions a cutaneous eruption, particularly in youths and young adults, even when they have no manifest antecedent indisposition, by corroborating the whole body, improving the appetite, and consequently increasing the coöctive, assimilating, and effluent faculties. The eruption is, I suppose, partly solicited
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to the skin by the stimulating quality of the sea water.

IT is, I think, more particularly observed, in several parts of the Essay on the Medical Constitution of Great-Britain, than it has been by any former author, that the scorbutic humours, peculiar to the ordinary land-scurvy, (which, besides the different sorts of cutaneous eruptions, comprehends the rheumatism, the gout, and erysipelas) do constitute the first internal and efficient cause of hypochondriac and hysteric affections, in general, and of most other obstinate nervous disorders. There is no doubt but that a recent rheum, from cold, doth sometimes give rise to vehement nervous diseases; But these are seldom of long continuance, because the recent rheum whence they proceed is generally far more easy of concoction, or resolution, than the abovesaid scorbutic humours; and readily admits of this change in simple colds, and simple fevers.

FROM a due attention to the nature of the abovesaid efficient cause of obstinate
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nervous disorders, I was led to make trial of a somewhat different procedure from the common method of cure in these disorders, and have not been disappointed in the success of it. The general treatment I practised in slow scorbutic or nervous little fevers of the first, or least dangerous class, in persons whose constitutions were naturally good, is cursorily mentioned in pages 108, 109, 165, 194, and 195 of the abovesaid work. In that work, indeed, it was only intended to exhibit the principal curative indications, immediately flowing from the common outward antecedent, and the first internal and efficient causes of popular diseases: I was, however, rather more particular, as to the cure of nervous diseases from scorbutic humours, because the general practice, at least at that time, among the bulk of practitioners, in such obstinate diseases, was not deduced from their abovesaid true efficient cause; but chiefly from the nervous symptoms; wherefore it consisted almost wholly in the exhibition of those medicines that are commonly termed nervous, anodine, and antispasmodic; which, in general, contribute

bute little towards the correction, concoction, attenuation, resolution, or expulsion of the acrid, irritating scorbutic, or rheumatic humor.

IN general, the first efficient cause of the hypochondriac affection, and other obstinate nervous disorders, consists of a great laxity and debility of the fibres, at least of those of the alimentary tube, joined with an acrid, scorbutic, or rheumatic humor; or of either of these causes almost single, or combined in various proportions: And from these first internal causes do naturally arise the true curative intentions. The hypochondriac affection is also varied, in some measure, as to its aspect and genius, in different persons, not only by the diversity of constitutions, and some other circumstances, but also by the peculiar acrimony and nature of the peccant humour in each patient: Its various qualities are sufficiently manifested by the different critical diseases it creates when it is determined to the surface of the body, or to the extremities; such as the gout; an erysipelas; the sciatica; and scorbutic

butic eruptions of various sorts, that are specifically different from each other.

IT should seem improper to assign flatus, and tough or ropy phlegm, as particular causes of the hypochondriac affection; of whose true proximate cause they are only effects, or symptoms; tho' they do, occasionally, like many other urgent symptoms, increase the patient's disorder, and give rise to additional symptoms. Wherefore these effects, or secondary causes, cannot point out the true curative intentions that ought to be pursued in order to make a radical cure of the original disease. Neither can the consideration of the various nervous symptoms, that arise from the sympathy of the nerves, which are only symptoms of symptoms, in anywise indicate the true radical cure; tho' it may sometimes be of service, by preventing us from mistaking a symptom for the original disease.

A GREAT sensibility of the nerves is, in general, a secondary cause, or symptom of nervous diseases; and therefore will rarely point

point out the intentions that ought to be pursued in order to make a radical cure. An increase of the sensibility of the nerves is the result either of a great weakness of the nervous system, whether it be acquired or constitutional; or of irritation, from an acrid scorbutic or rheumatic humour; or of both these causes; which, as is already observed, are the first internal and efficient causes of obstinate nervous disorders, in general. The strongest and least irritable nerves may be rendered weak and delicate, or very sensible, by great fatigue, or want of sleep, or both; or by a sedentary life, and living on thin poor foods; or drinking strong green tea, or coffee daily, with excess; or by great affections of the mind; or very great evacuations; or by having the nervous system, or the nerves of some particular part, continually irritated by an acrid humour. It is observable that a scorbutic humour, in an influent state, doth not only occasionally increase the laxity and debility of the fibres, and, by consequence, the sensibility of the nerves; but that it often happens that a natural puny and delicate con-

stitution is the result of an hereditary scorbutic taint.

THOSE who have a lax weak and delicate frame of body, either naturally or acquired, have, of course, a thin, poor, light blood that is imperfectly assimilated, and very weak and sensible nerves; and as such a state of the habit may properly be deemed a nervous affection of the body, of which the great sensibility of the nerves is only a symptom, it is necessarily more susceptible of greater and more manifest nervous disorders, under the influence of any of the aforementioned causes; but chiefly from great affections of the mind, inanition, or whatever increases the laxity of the fibres.

THE internal and habitual causes of nervous affections mentioned in the last paragraph, do also, in some time, necessarily induce more or less of a cacochymy, or the land-scurvy; and the diseases which thence result; particularly hypochondriac affections. But a great degree of all these internal primary causes do at length impair the
sensi-

sensibility of the nerves ; and give rise, in bad constitutions, to a palsy, or a cachexy and dropfy, or an atrophy and death. Wherefore, in these cases, the first chief internal or habitual cause is a laxity of the solids ; which naturally points out the general procedure that is likely to be most conducive towards making a radical cure of the nervous disease ; due regard being had to the scorbutic humour, which constitutes the irritating cause : For the peccant humours peculiar to the land-scurvy are a necessary consequence as well as a cause of lax fibres.

A scorbutic humour may, in some time, be acquired by persons of robust constitutions, from a retention and gradual accumulation of some share of the recrements of the circulating juices ; particularly in plethoric habits, or such as live luxuriously and take little exercise ; especially after having been accustomed to an active life ; and in hard-working men, who live on dense heavy foods, and are most subject to some of the powerful accidental causes of the hypochondriac affection mentioned in the foregoing ; and
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in those who have an hereditary scorbutic or gouty disposition. The peccant humour, which is thus acquired, is often the source of an habitual land-scurvy, cutaneous eruptions, the gout, erysipelas, sciatica, and the wandering scorbutic rheumatism ; and when it invades the abdominal viscera, and particularly the stomach, it gives rise to the hypochondriac affection ; and by continually irritating the gastric nerves, it increases their sensibility, as well as that of other nerves that sympathize with the former. But a great degree of that cause, when many of the finest vessels are obstructed by the peccant humour, doth commonly impair the sensibility of the nerves originally affected ; which is observable in those cases that are attended with a coldness of the stomach : In like manner, the rheumatism, and particularly the sciatica, doth often occasion a coldness, numbness and debility of the affected limb ; and palsies are generally occasioned by scorbutic or rheumatic humours.

THE most obstinate cases of the hypochondriac affection do, in general, result from

from a copious internal scorbutic humour ; without any manifest antecedent laxity and debility of the solids, or great sensibility of the nervous system. From what is said, the reason is obvious why we often meet with this disease in persons of strong constitutions ; and why it is most incident to stout hard-working men. In nervous disorders from this cause, in persons of pretty good constitutions, the intentions of cure will consist almost wholly in correcting, concocting, resolving, and expelling the peccant humour, in order either to carry it off gradually by the emunctories, or throw it upon the surface of the body, or to the extremities, in the form of a critical disease.

IT is easy to conceive that a scorbutic or rheumatic humour, when lodged in the glands, or minute vessels of the stomach, or even partly in the interstices of the vessels and nerves, must necessarily produce many bad effects, both by its irritation, and in consequence of the obstruction of particular vessels ; such as the following, viz. A vitiated secretion in the glands of the stomach,
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and a consequent depraved state of the gastric juices; a lesion of the nerves of that organ; a laxity of its fibres; an impaired digestion; a generation of flatus, and either of ropy or watery phlegm; an irregular and less brisk and uniform motion of the blood in the ventral and hepatic branches of the vena portæ; and of course, an inert, or vitiated bile, which increases the original disease; and, in process of time, obstructions in the abdominal viscera; but chiefly in the spleen, stomach and liver; besides a great variety of other symptoms, which spring immediately from these primary effects of the disease, or chiefly from the sympathy of the nerves.

N o w it is obvious, that if the scorbutic humour, which lies stagnant in the nervous and vascular coats of the stomach, and continually irritates the gastric nerves, is dislodged, and expelled by the emunctories, or thrown outward in the form of a critical disease; before the original affection hath, by long continuance, in a bad constitution, induced very obstinate, or incurable obstructions;

tions; if so, I say, all the symptoms of the hypochondriac affection will vanish, of course; for on the correction, removal, or expulsion of the first efficient internal cause, all its effects must necessarily cease. Wherefore it is not necessary to know by what mechanism the acrid peccant humour acts upon the gastric nerves so as to produce spasms, and other nervous symptoms; since the discovery of it, if practicable, would be of no service in the practice of physic. I cannot help thinking that a contempt of theory, either from an abuse of it, or because we cannot attain to the knowledge of certain mechanical operations that never can be discovered, hath occasioned the modern practice of medicine to have a too great tendency to empiricism.

THE heavy, feeble, and languid state of body, with lowness of spirits; sometimes with inappetency; or an impaired digestion; flatus; a febricula, or furred or whitish tongue, at least in the mornings; sometimes also with vomiting after meals; and pain, or sickness or oppression at the stomach;

mach; and some other slight nervous or hypochondriac symptoms; this indisposition, I say, which is most incident to persons of a tender frame, chiefly in the spring and forepart of summer, seldom amounts to a true confirmed hypochondriac affection; being, in general, only a scorbutic affection, of the first class of the ordinary land-scurvy, or a small degree of the former nervous affection, resulting, in a great measure, from lax fibres, and an impaired perspiration; and which, commonly, yields to medicines that strengthen the stomach and bowels, and promote perspiration; joined with exercise, a proper diet, and a pure air; or in as great a measure as the natural delicacy of the frame will admit; provided the scorbutic cacochymy is not considerable, or the result of an hereditary taint; and that the party's constitution is not greatly weakened, or worn out by age, or indisposition. The first passages should first be gently purged, especially as the bile is often faulty. Some persons, however, who have a delicate and irritable state of the nerves, are always rendered worse by purging: In such cases, a spare

spare thin diet, will, in some time, answer the end of purging, or vomiting, with the aid of suitable generous medicines. In such cases, 'tis well known that the Peruvian bark is of signal service; particularly the tincture of it, which may be combined, occasionally, with an equal portion of bitter stomach tincture extracted with brandy, or with some drops of the distilled oils of lemons, juniper, and mint, or with a small proportion of camphor, or musk, or with the acid spirit of vitriol, or otherwise, according to the genius of the disease, and the constitution of the patient. But, in a true confirmed hypochondriac affection, such medicines, and all the other medicines and resources that are usually recommended, are frequently of little or no service.

THO' a too great delicacy and sensibility of the nerves, most incident, among adults, to women of a thin delicate and tender habit of body, are deemed, by a learned and experienced late author, the chief, or, indeed, almost sole predisposing cause of the hypochondriac affection, and other nervous

disorders; yet by far the greatest part of the hypochondriac patients that I have met with, in the course of my practice, were men either of a clean and well-sized, or robust frame of body; and many of them were remarkably stout and muscular. For, as this disease is, in general, induced by a scorbutic humour, which may be gradually accumulated in the strongest habits, by a retention of some share of the excrementitious parts of the juices, as is already observed; and chiefly in those who live luxuriously, or that eat plentifully of coarse and heavy wheaten foods, salted and dried beef and bacon, and fat baked meats; for these reasons, I say, strong men, but chiefly hard-working husband-men, become in a great measure obnoxious thereto; especially as they are most liable to the principal powerful accidental causes of the hypochondriac affection that are specified in the foregoing. The strong, equally with the weak, are also often subject to this disease, from an hereditary scorbutic, or gouty, or scrophulous taint; or from a quartan intermittent, and some other diseases, when they are improperly

perly treated, or terminate by an imperfect crisis. Besides, as the gout and sciatica are, in general, most incident to persons of strong stamina, and the scrophula is so frequently; so may the hypochondriac affection, which is often the offspring of the peccant humours peculiar to those diseases. Weak and tender people, however, being more temperate, and careful of their healths, than those who are more robust, will be less liable, than the latter, to incur this affection from certain accidental causes, or intemperance.

As the true hypochondriac affection is incident to those only, who are above the age of puberty, and seldom affects persons above sixty years of age, it should seem to be frequently owing, in some measure, to a defect of a particular natural periodical evacuation, to which men, as well as women, may become subject at the first-mentioned age; and which, in the former, may be performed insensibly by the common emunctories. It is, however, observable that those, in general, who are subject to the ordinary
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land-scurvy, and hypochondriac patients, have commonly a dry skin, and are difficult to sweat: Indeed in such persons, all, or most of the natural secretions and excretions are usually more or less impaired, or viriate; owing, in a great measure, to an inert and scanty, or vitiated bile; for this highly animalized juice, when in a natural salutary state, is in a great measure conducive towards promoting all the secretions and excretions of the body; particularly those of the alimentary tube, which is the chief seat of the hypochondriac affection. Hence the reason, why hypochondriac patients are generally relieved by hot and dry weather, in July and August, which increases perspiration, and a tendency to sweat; and accelerates the motion of the blood in the viscera concerned in making the bile; and why they are usually affected in the greatest degree, by that disorder, in the close of autumn, or fore-part of winter, and in the spring, and fore-part of summer, when all scorbutic affections are most prevalent.

BUT if, according to the abovesaid inge-
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nious author's hypothesis, a too great delicacy and sensibility of the nervous system constituted the chief, or almost sole predisposing cause of the hypochondriac affection, 'tis obvious that persons under the age of puberty, or even children, would be, at least, as subject thereto, as persons betwixt fourteen and twenty-one; which is by no means the case. Besides, adults of a thin, delicate, and tender frame, with very sensible nerves, do, in general, perspire too much, and are easy to sweat; which will render them less subject to the acrid scorbutic humours that create obstinate hypochondriac affections. Wherefore such persons of puny constitution, and weak or very sensible nerves (quite contrary to what happens to those in a true confirmed hypochondriac affection) being greatly relaxed, and weakened by profuse sweating, in sultry weather, with southerly winds, in July, are, in general, most feeble, languid, and indisposed in that month, if such weather prevails: and enjoy the best health in clear, dry, somewhat cold, or frosty and uniform weather, in the close of autumn, and in winter

ter: And, on the same principle, they are most effectually relieved by the most efficacious cardiacs, stomachics, and corroborants. Indeed, such medicines are also often serviceable, in a true hypochondriac affection, in which the fibres of the alimentary tube are commonly more or less relaxed; the rather because they are conducive towards the production of wholesome juices, and hastening the concoction and resolution of the peccant humour; by increasing the digestive assimilating and vital powers.

EXCLUSIVE of the nervous disorders that arise from the aforementioned distempers of the solids and fluids, there are some that are induced wholly by great affections of the mind, in consequence of its great influence upon the animal spirits. From these, indeed, children, having few ideas, and little reflection, are, in a great measure, exempted. I have, however, reason to believe, from observation, that many nervous cases that are supposed to result from mental affection, do not owe their existence entirely to that cause, but chiefly to scorbutic rheuma

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matic or gouty humours: For when the mind is dejected or much affected, these humours are most apt to retire from the exterior to the noble parts of the body. On the contrary, a chearful easy disposition enables nature to determine morbid humours outwards, and is most favourable to health.

I HAVE met with many cases of the true hypochondriac affection, mostly in robust women, from a scorbutic or rheumatic humour, without any of the pathognomic symptoms of the hysteric passion. These two diseases are specifically different, as to their chief pathognomic symptoms; yet, as they are often united in the same female patient, it is, in that case, somewhat difficult to make a proper distinction between them. It is also observable that the hysteric affection is more incident to women of a tender delicate frame, and is more apt to be induced by inanition, or great affections of the mind, and is more relieved by opium and *assa fætida*, and, in general, is far less obstinate, than the true hypochondriac affection. It is
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sometimes, also, induced in strong healthy young women, by a plethora, joined with an indulgence of lascivious thoughts; whence that species of it which is termed Furor Uterinus; which, however, is seldom attended with insanity, but commonly appears in the shape of hysteric fits. It must, however, be owned, that men, in some few instances, have symptoms that nearly resemble those that are peculiar to the hysteric passion.

W H E N the hypochondriac affection is occasioned by a copious scorbutic humour, it is commonly attended with a febricula; or the tongue is furred or whitish, at least in the mornings before breakfast: But when it terminates in a disordered mind, or in high madness, the complaint in the abdominal viscera, and the febricula cease; the tongue becomes moist, and well coloured; and the appetite is good, and often voracious; because the peccant humour quits the abdominal viscera, and invades the organs that are subservient to the mind.

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THE cure of the hypochondriac affection from a sedentary life, fatigue and watching, inanition, and some other obvious causes, is indicated in a great measure by those primitive efficient causes; and such cases of it may, in general, be easily cured, before the disease is much advanced, or rendered obstinate by confirmed obstructions in the abdominal viscera. But when the disease proceeds chiefly, or almost wholly from a scorbutic, rheumatic or gouty humour, but more especially when it results from the peccant humour peculiar to an obstinate scorbutic eruption, that is lodged chiefly in the coats of the stomach, it is generally exceeding difficult of cure; and still more so if it results also partly from an hereditary or constitutional humoral or hypochondriac disposition: Nor will it yield to any remedy, till the peccant humor becomes, in process of time, susceptible of resolution and separation from the sound juices; after which it may either be expelled, by slow degrees, by the emunctories, or thrown outward in the form of a critical disease, according as

the peccant humor is more or less concocted: It may likewise, when so prepared, be attracted and drawn off partly by means of issues in the lower extremities; in concurrence with other suitable remedies.

IT is here only intended to give a general idea of the land-scurvy, and hypochondriac affection: wherefore I shall not, at present, give a particular narrative of the appropriated remedies for these maladies under various forms and circumstances. It may suffice, in the mean time, to observe that almost all the remedies that are most efficacious against the ordinary land-scurvy, in an influent state, are so likewise against the hypochondriac affection; that the great Boerhaave's method of cure for the scurvy is, in general, calculated against the land-scurvy, (Boerhaave Aph. 1156 ad 1166,) and is exceeding proper in most cases of the hypochondriac affection, especially when it results from a scorbutic humour; that the curative procedure recommended by Riverius in hypochondriac and scorbutic affections, is, in general, well appropriate to the
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first mentioned affection, particularly when it results from scorbutic rheumatic or gouty humours. Likewise that daily riding out, and even long journies on horse-back if the bowels are found, joined with some light business, with a proper diet, and a wholesome air, is the most efficacious remedy against the abovesaid affection, in general; especially when it is induced by a sedentary life. A summer voyage, at sea, if the party lives on fresh provisions, is very efficacious against the ordinary land-scurvy, both in an influent and eruptive state, as I have, in many instances, observed: it is also serviceable in the abovesaid affection, provided the party does not continue long sea-sick; and there is great reason to believe that a West-Indian voyage will more effectually carry it off than any other remedy; provided the party lives on light wholesome foods, and has a good constitution; and especially if the disease be attended with an impaired perspiration, and the party is difficult to sweat.

OBSTINATE cases of this disease do often occur that will not yield to the most indefatigable perseverance in the use of the most appropriated medicines, at least of such as are usually recommended against it; and some cases are irritated and rendered worse by almost every medicine that is taken; yet, in such cases, the disease often ceases or abates spontaneously, when the summer is well advanced, but generally returns in the close of autumn, or in the winter or spring. Wherefore this chronic disease, with regard to such obstinate attacks of it, has been justly stiled *Opprobrium Medicorum*. In these cases of uncommon obstinacy, if the party has a good constitution, is under a middle age, and not much reduced by the disease, and has not formerly been salivated, I would recommend a gentle salivation, which I practised with some success in the cases mentioned in the sequel.

THO' mercury is extreamly noxious in the muriatic scurvy, and in all the extraordinary scurvies of the third class, which are attend-
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ed with a dissolved state of the blood, or more or less of the petechial dyscrasy; yet in obstinate cases of the common cutaneous or eruptive scurvy, and in obstinate fixed rheumatisms, it is often more effectual than any other medicine; being, as is before observed, possessed of a power of speedily correcting, or concocting and resolving the peccant humors peculiar to the ordinary land-scurvy, and of rendering them susceptible of being separated from the sound juices, and expelled by the emunctories. On the same principle it is most efficacious against the disorders occasioned by these peccant humors, when they are internal, and lodged chiefly in some noble part. Wherefore I was led to make trial of the mercury in the hypochondriac affection from scorbutic humours; the rather because I had experienced the great efficacy of a salivation in the chronic dysury, which is often attended with hypochondriac symptoms; and also because the true hypochondriac affection is commonly attended with a dense heavy blood, which is, in a great measure, the reverse of the abovesaid petechial dyscrasy.

A PILOT, in Whitby, aged 38, of a robust frame of body, had been a year hypochondriacal, when he desired my advice, in December 1764. He had taken all the usual medicines by the advice of a skilful physician, without being in any wise relieved by them. Wherefore I put him under a course of gentle salivation. The most urgent symptoms, in this case, were vehement shooting pains in the bowels, which were often conveyed to different parts of the body, apparently by the sympathy of the nerves; he was much troubled with ropy phlegm in the stomach, which often caused him to puke, mostly in the mornings; his mind was much affected with imaginary fears; flatus tended mostly upwards; he had a slight febricula; and was heavy, listless, feeble and low spirited; and his gums were partly eroded. It is observed in the foregoing that the erosion of the gums which happens in some cases of the ordinary land-scurvy, is most commonly occasioned by an herpetic humour; wherefore the internal efficient cause of this patient's

tient's disease was indicated, in a great measure, by this symptom.

SOME time before that, I salivated a farmer, in Westerdale, aged 36, who had been two years hypochondriacal; for which he had taken many medicines that were wholly ineffectual. The most urgent symptoms, in this case, were the following. The party was exceeding heavy and languid; the conjunctive tunics of the eyes were of an obscure white, from a fulness of their minute vessels; and his memory was much impaired. He had a continual uneasy sensation at the left portion of the great arch of the colon, and imagined he could feel an uncommon hardness there, when he lay in bed; he had also an uncommon feeling, or some uneasy sensation in the course of the rectum; he was generally costive, and the fæces were always accompanied with mucus; and flatus was prevalent, and tended mostly upwards, as is usual in this affection. This farmer was exceeding strong and healthy, and very laborious, but was much affected with an itchy pustular eruption, before
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the accession of the abovementioned disorder.

IN these two cases the salivation carried off the most urgent symptoms in a great measure. After that course, the following electuary was taken by each of them. R. Flor. Sulph. ℥ij. Crem. Tart. ℥i. Gum. Myrrh. Guajac. Cinnab. Antimon. Pulv. Rad. Gentian. Curcum. Sem. Anis. aa ℥ij. Nitr. Camph. aa ℥ss. Tinct. Opii gutt. 40. Syr. Sacch. q. s. ut fiat elect. de quo capiat q. n. m. omni nocte et mane, superbibendo infusi Galegæ haustum. After persevering in the use of this medicine for some time, the following strengthening electuary was administered. R. Pulv. Cort. Peruv. ℥iss. limatur. Mart. præpt. Tart. solubil. aa ℥ij. Pulv. Rad. Gentian. Sem. Anis. aa ℥i. Ol. Stillat. Junip. Aurant. aa gutt. 30. Syr. Sacch. q. s. ut fiat Elect. de quo capiat q. n. m. omni mane jejunus, superbibendo Aq. Menth. fativ. simpl. fontan. aa. ℥i. After this course the remaining slight complaints almost quite ceased. They have since enjoyed a tolerable good state of health, and have

have little or no feeling of the old complaint except sometimes, particularly in the spring, on getting cold.

I OMITTED mentioning above that the second patient was once seized with the following hypochondriac symptom, which continued some days. Each night, immediately on falling asleep, he was seized with a great difficulty of breathing, which instantly awaked him; but it seldom affected him any more the same night: It was attended with oppression at the præcordia, and a tremulous motion below the pit of the stomach; and its immediate cause was, doubtless, a spasm of the diaphragm. I have met with one case of a similar symptom in a woman who was greatly reduced by a profuse hæmorrhage from abortion; and with five remarkable cases of it in stout men. One of these, Marmaduke Blenkinsop, of Guisbrough, was obliged to sit up in a chair for three weeks; for as soon as he lay down, whether supine, or on one side, and tho' awake, the spasm of the diaphragm seized him; and he was greatly intimidate with

vain fears, as is usual in this affection. This symptom, which attacked him in April, 1758, and was attended with a febricula, ceased in the end of the third week, with the aid of suitable medicines; but the party was more or less hypochondriacal till October following, when he was seized with violent shooting pains in the lower extremities, which terminated in a moist herpetic eruption on the hams, legs and feet, which continued some time, and discharged abundance of humour; and the party, since that time, has enjoyed uninterrupted health.

A SERJEANT of the militia, by occupation a weaver, of a clean personal habit, and fresh complexion, had been a long time hypochondriacal, when he put himself under my care in September 1765: But the chief and most urgent symptom in this case was a painful spasmodic dysury, or strangury; attended with a pain which darted from the hypogastric region to the upper part of the penis. He had taken many medicines, some on the supposition of a stone being lodged in the bladder, and
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several for the spasmodic affection, to no purpose. I attempted to salivate him; but, after purging him twice with calomel, and a fortnight's use of the mercurial unction, no signs of a salivation appearing. I thought it imprudent to persist any longer in that intention. However, he was greatly relieved by this course; and, after taking the above mentioned electuaries, he became almost quite free from the disorder; and the slight feeling of the complaint which remained, and was only at times perceptible, went off by slow degrees; and he is now healthy.

SULPHUR is is often very serviceable in this affection, even without any additional mixture; particularly when it proves a little opening, without griping the patient: It may, however, be combined with some other suitable medicines with advantage. A butcher in Stoxsley, aged about 30, of a very robust frame of body, and pale complexion, became hypochondrical, two years ago, after having had a quartan intermittent. He reaps more benefit by the following electuary

tuary, than by any other gentle medicine. R. flor. sulph. ℥ij. antimon crud. præpt ℥i. crem. tart. ℥fs. gum. myrrh. guajac. mercur. alcalizat. nitr. aa ℥ij. camphor. ℥ij. syr. facch. q. s. ut fiat elect. de quo capiat q. n. m. omni nocte et mane, vel q. s. ad alvum liberam fervandam. He sometimes drinks, with this electuary, molasses beer medicated with fir-tops, dandelion, and tansey; and sometimes he drinks a decoction of these simples. His father has, for many years, had a scurfy herpetic or leprous eruption on his arms. This patient's disorder probably proceeds from the scorbutic humour peculiar to that species of eruption in an influent state; and I don't doubt but a gentle salivation would be of service to him. This patient, since writing the above, began in August 1766, when he was taking the above mentioned electuary, to have a scurfy eruption on his arms; at the same time some small boils, or furuncles, broke out in different parts of his body; and the complaint at his stomach, with its attendant hypochondriac symptoms, was almost entirely gone off; and in October following he was free from the hypochondriac affect-

affection; but the scurfy itching eruption continued on his arms, and about his knees.

IT is by no means a general rule, that acids are injurious in the hypochondriac affection. I have often observed a very good effect, in this disease, from the following electuary. R. crem. tart. ℥ij. pulv. curcum. ℥i. sem. anis. pulv. 3 camph. nitr. aa 3ss. fyr. sacch. q. s. ut fiat elect. de quo capiat q. n. m. parv. omni nocte et mane, superbibendo infusi absinth. marin. ℥iv. The same electuary, with the addition of flor. sulph. and those already specified, which consist chiefly of sulphur and cream of tartar, I have often ordered, in this affection, with observable good success.

VEGETABLE acids, such as tamarind, the juice of Seville oranges, and lemons, chiefly the two former, taken in hot weak rum punch, every evening, are exceeding serviceable. Two years since I cured a gentleman, above a middle age, of a palpitation or spasmodic contraction of the heart and carotid arteries, attended with an intermission

sion of the pulse, with marmalade of Seville oranges, after all the usual antispasmodic and nervous medicines had failed of success. That disorder attacked him in September 1764; and, in the following spring, after the palpitation ceased, he became subject to a heart-burn, which, at times, was attended with belching up of acid phlegm. Crab's eyes and chalk gave present relief; salt of wormwood destroyed the acid, but did not carry off the heat and uneasy sensation at the stomach; a glass of wine, or a little of any spirituous liquor, either alone, or mixed with water, without acid, drank in the morning, never failed to bring it on; but the party was compleatly cured of this disorder by drinking some warm weak rum-punch, moderately acidulated with the juice of Seville oranges, every evening. At the same time he had a yellowish tinge of the white of the eyes, which was carried off very soon with squill-pills. The celebrated Dr Whytt makes mention of a case of a palpitation of the heart, in his excellent book on nervous disorders, lately published, that was cured with lemon juice.

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THE hypochondriac affection is commonly attended with more or less of a febricula, or at least with a furred, or whitish tongue; in which case, if the party's constitution is tolerably good, acids are generally serviceable, particularly those above mentioned; but more especially if the disease be attended with uncommon thirst. They oftner disagree with women than men, and are apt to gripe the former, or occasion some uneasiness of the stomach, particularly with regard to such as have a relaxed and very tender frame. Some men, mostly above a middle age, who have cold relaxed stomachs, or that may be said to have the ferment of that organ vitiated, from the pcccant humour peculiar to the gout, or sciatica, or that have an inert and scanty bile, and are, by consequence, subject to a prevalent acidity in the alimentary tube, are injured by acids. But there are exceptions to this rule, as is manifest from the abovementioned case of a heart-burn, with belching up of acid phlegm, which was cured with weak rum-punch; and I know well that allum is an excellent remedy in many cases of a heart-burn.

burn. Milk, tho' most acefcant, agrees well with many hypochondriac patients; efpecially if it be diluted with a fuitable proportion of fpring water, and lightly fweetened with honey or fugar, and made hot, without fuffering it to boil; fome nutmeg may be grated upon it; after which it may be taken warm, with toafted bread to breakfast: But it often difagrees with thofe who are hard drinkers; or that are fubject to an acrid and vitiated bile; or that have a yellowifh furred tongue in the mornings; or a manifef febricula; or are affected with a gouty humour in the coats of the ftomach, with a coldnefs of that organ, and a prevalent acidity therein; and with ftomachs that generate much ropy phlegm, or that are apt to be much tumefied after meals. Hoffman cautions againft the ufe of acids in this affection, and yet, in the next paragraph, he recommends old rhenifh or burgundy wine well diluted with water. Wine, or punch, is moft certainly exceeding falutary with regard to thofe, in general, who live almoft wholly on animal food.

IT is asserted in the foregoing, that convulsions, rickets, and other diseases that are most fatal to the London children under two years of age, are, in general, occasioned chiefly by the peccant humours peculiar to the eruptive scurvy, in an influent or latent state, or when they chiefly attack some noble part, and yield not to the depurative and effluent faculties. Convulsions are, no doubt, sometimes excited in children by other causes; such as a retention of the meconium; an acrid humour lodged in the stomach or intestines; and the cutting of the teeth: But the fits from these causes seldom prove fatal, under proper management, to pretty strong children. Fits may also be induced, in consequence of an hereditary disposition, or from a wrong conformation of the head; and the convulsions from these causes are exceeding obstinate and fatal.

THE rickets is no doubt often occasioned, at least partly, by an influent scorbutic humor, or a scorbutic affection of the first class; but I am of opinion that disease is, for the

most part, in a great measure owing to some degree of an hydrocephalum: For those children who have great heads, with a large fontanella, which generally precede and attend the rickets, especially when this disease takes place in a great degree, have some water upon the brain, or in its ventricles; which, by its pressure on the brain, and origin of the spinal marrow, joined with its relaxing quality, necessarily occasions a great laxity and debility of the whole body, and a rickety disposition. This disease is sometimes also induced by an habitual scrophulous taint, the peccant humour peculiar to the scrophula being most apt to affect the bones. It may sometimes be occasioned by a combination of scrophulons and scorbutic humours; and from this compound cause it affects the spine and breast, in some few instances, in youths, and sometimes even in adults.

XIX. *Of the* SCORBUTIC ITCH.

TH^{O'} I intended, at present, to give only a general idea of the land-scurvy, yet, as the scorbutic itch, which is no unfrequent disease, is not described by any author that I know, I shall here give a brief narrative of it; with such observations relative to the cure as contribute to elucidate some particulars with regard to the genius of this eruption: This being done, I shall conclude this general essay on the land-scurvy with two cases of that disease, which are intended to illustrate some of the principal facts asserted in the foregoing.

THE most simple and common species of the scorbutic itch doth so much resemble the common contagious itch that it needeth no description. It is, however, less apt to break out between the fingers, and commonly attended with a less degree of itching, than the last mentioned itch. It is sometimes so frequent, particularly in November
and

and December, as to be almost epidemical among many families amongst the vulgar. It is only infectious with regard to predisposed persons; wherefore it sometimes invades one or two in a family without infecting the rest of the family. It yields not to the sulphur ointment, or, at least, not till the fomes of the disease in the blood is extinguished by suitable alteratives; such as are recommended in the Essay on the Medical Constitution of Great-Britain (page 262), in which there is also a more particular description of this cutaneous disease.

SINCE writing that essay, I have often advised a hot bath of sea water, impregnated with some antiscorbutic simples, and either with sulphur vivum, or crude sulphur; which frequently cures both this species and the following more obstinate sort, particularly in children and youths, with the aid of suitable alteratives, after all the other usual resources have failed. I am opinion that such a medicated sea-water-bath is much preferable to the Harrowgate-water-bath, in
cuta-

cutaneous disorders; since it often makes a speedy cure, without the aid of sweating. It may, however, be proper to sweat in some obstinate cases, particularly in adults of good constitutions; the rather because scorbutic humors are more effectually discharged by the skin, than by any other emunctory. The bath should be as hot as the patient can easily bear it, which renders it far more effectual in obstinate cutaneous eruptions. In some few instances, when the eruption is in a great measure inflammatory, or attended with intolerable itching, bleeding is of service; but it is oftner necessary in the following more obstinate species, in which the blood is sometimes a little fizy: And the state of the blood will be conducive towards indicating the most appropriate temperature of the internal medicines that may be necessary towards making a complete cure.

FREQUENT purging, even with seawater, is seldom of any service, and is often hurtful both in this eruption and the following; and indeed in obstinate cutaneous
dis-

diseases in general, unless they be on the decrease : For it weakens the patient, and retards the concoction of the peccant humor ; and sometimes occasions the eruption to retire from the skin, before its fomes is destroyed, which is often of bad consequence. It is, however, often of service to keep the body somewhat open with sulphur and cream of tartar ; or with alcalized mercury and soluble tartar, with the addition of a little rhubarb.

SOME patients, after being cured, in the close of autumn, have a return of the disease in the spring ; especially if it be carried off by frequent purging, or repelled by the cold bath, or by unction ; and it attacks some youths annually at spring and fall for two or three successive years. It is sometimes complicated with the common contagious itch ; and it is observable that this last mentioned disease, tho' it is supposed to be occasioned by animalculæ, and to be wholly cutaneous, and acquired only by infection, is yet more frequent in the close of autumn, and in the spring, but chiefly in the latter season, than

than at any other time in the year: Were it occasioned by animalculæ, 'tis probable they would attack the face as well as the hands, or any other part of the body.

THE most obstinate species of the scorbutic itch is much less frequent than the former. It continues, if suffered to take its course, during the space of one, two, three or four years; sometimes, indeed, disappearing, or decreasing in summer, and returning or increasing in the close of autumn, or beginning of winter. It is infectious only with regard to predisposed persons, or to a bed-fellow; and is often with great difficulty extirpated out of families that happen to be infected thereby; and some families among the vulgar are more susceptible than others of both this and the former species of the cutaneous scurvy. This species is most incident to young children, who often acquire it spontaneously, and sometimes infect particular families. But this obstinate scorbutic itch is more infectious in some adults, than it is usually in children; for many children who have it do not infect the family,

except the mother or nurse of the child: But she has, for the most part, some spots only on her arms, which are wholly local and superficial, and may be cured by the sulphur ointment; tho' this unguent is in no way serviceable to the child; but is most apt to prove of dangerous consequence, by checking perspiration, and repelling the eruption. This disease appears in the following manner.

THE eruption comes out generally in a thicker crop all over the body, and is attended with more intolerable itching, especially in the forepart of the night, in bed, than the first or more simple species: It appears sometimes, but seldom, on the face and head; and in some cases it is mostly partial, or prevails more in some parts than others. The recent pustules are either of a pale or bright red; these, after filling with a sharp ferous humour, burst either spontaneously, or with scratching, or they incrustate without bursting; and in either case, they become dry and flat, or but little elevated, then forming small reddish, brown, or blackish specks;
for

for they very seldom, or never form into pretty large scabby crusts, as those in the first species of the scorbutic itch often do; neither do the pustules always fill with a ferrous humour; for, in many instances, they are mostly fleeting, like the red gum in young children, and many of them do either at times disappear, or form, either spontaneously or on being scratched, into small reddish or brown and flat crusty specks, as the former: and they sometimes bleed, and become sore, from scratching. In the worst sort, for there are different degrees of this disease, many of the pustules are quite pale, and deep-seated in the skin; and these are commonly more sensible to the touch, than visible; for the skin feels lumpy on being stroaked with the hand; and these little bumps, as well as the abovementioned pustules, are often induced by scratching; the skin being often itchy where there is no visible eruption. As many of the pustules, are usually fleeting, the crop is commonly increased, together with the itching, by heat, and diminished by cold.

IN some few cases the peccant humour of this disease produces little or no eruption ; yet it reigns at the surface of the body, apparently in the skin, the cellular and adipose membranes, and aponeuroses of the muscles, but chiefly in the skin ; in the last it occasions frequent itching without any sensible eruption ; and in those parts it sometimes gives rise to wandering pains, and often feels as if a humour or fluid was running from one part to another ; and sometimes it occasions a fluttering in the skin, in different parts.

THIS obstinate eruptive scurvy, when it accedes spontaneously, is generally preceded by the habitual scorbutic affection of the first class of the ordinary land-scurvy, or by some symptoms of that affection ; and sometimes, tho' seldom, it succeeds an intermitting fever that recedes by an imperfect crisis : But it is never preceded by an eruptive fever ; nor is it ever attended with any manifest fever, exclusive of some degree of a symptomatic febricula, which is an unavoidable
able

able effect of the eruption, when it takes place in a great degree, or is in a great measure inflammatory, or attended with intolerable itching which very much disturbs the party's repose in bed; nor does it ever prove fatal, unless it be repelled, and the party's strength is much reduced, by improper treatment.

THIS cutaneous disease hath its increase, height and decrease; the peccant humour being always, soon or late, according to the genius of the disease, and the diet and constitution of the party, concocted in a great measure so as to be susceptible of being discharged partly by the emunctories; and a great share of it is gradually exhausted in the pustules; for, even when the eruption is idiopathic, or the result of a peccant humour that is generated in the body as it is frequently, it does not, according to the common notion, become more obstinate the longer it continues, but on the contrary; provided the party lives not on foods that are most productive of the scorbutic disease; or has an inherent scorbutic taint, or

a bad constitution. For, as we have observed in the foregoing, the little inflammations attending the eruption are conducive towards promoting the concoction of the peccant humour, which otherwise could hardly be effected by the natural action and reaction of the solids and fluids. Hence it is that the medicines that will often cure the cutaneous scurvy, after being of long standing, and on the decrease, do often fail in a more early period of the disease: And as it varies in a great measure in different persons, the medicines that will subdue it in one will ^{then} fail in another. It would seem probable, that the common contagious itch doth, in some particular habits and constitutions, degenerate to the scorbutic; since, of two persons that are infected, the one is sometimes at once effectually cured with the sulphur ointment, while the other reaps no benefit from the unction, and can only be cured by the remedies that are most successful against the scorbutic itch.

A shoe-maker, aged about 30, was cured of this disease, after it had continued three
years,

years, only by drinking six ounces of sea water every morning, during the space of three weeks; tho' it purged him not, but operated as an alterative. He had, during the first year of the itch, used sulphur ointment, and taken many internal medicines, and purged frequently with sea water, without any benefit whatever. The sea water, as an alterative, is often very servicable, but it often also has scarce any observable good effect in this obstinate cutaneous disease, as I have in many instances experienced. In its decrease it may often be repelled by bathing in cold spring water, or in the sea, or carried off by frequent purging with sea water, without any bad consequence. But, in this case, unless the peccant humour is previously in a great measure exhausted, it commonly breaks out again in the close of autumn, or fore-part of winter. But when this itch is acquired by infection, it may generally be cured, as soon as it appears, by the sulphur ointment; which corrects or destroys the peccant humour in the pustules, before it infects the blood; provided the party has not a great predisposition thereto;
or

or is most susceptible of infection from a thin and delicate frame, with very sensible nerves. Indeed, with regard to persons who are infected with this scurvy, it may be said to grow more obstinate by a short continuance; that is, till the juices are infected; after which it will have its increase height and decrease, as is above-mentioned, if suffered to take its course. The sulphur ointment is seldom of any service in this obstinate scorbutic itch, except in the circumstance last mentioned, and after the decrease is much advanced, and the fomes of the disease in the blood is almost quite exhausted. I have observed that an ointment made with ash-coloured liver-wort and the roots of sharp-pointed dock, and sufficiently impregnate with sulphur, is more effectual in those cases, than the common sulphur ointment. But when the peccant humour is copious, and the disease in its increase or height, the sulphur ointment is not only ineffectual, but often pernicious by obstructing perspiration, and repelling the eruption, or a great share of the peccant humour.

M E R C U-

MERCURIALS taken internally, or applied by unct̄ion, are generally exceeding serviceable in all the stages of this disease; but they sometimes fail to make an effectual cure. The following medicines are also exceeding proper in this land-scurvy, viz. decoctions of the woods, Peruvian bark, and other suitable simples; the internal use of sulphur, combined with crude antimony, cream of tartar, and nitre, as I formerly observed in the Essay on the Medical Constitution of Great-Britain, page 262. When sea water is taken as an alterative, or gentle laxative, the dose for a man should not exceed three or four ounces every night and morning; and that dose should be blended with an equal portion of a decoction of the woods; or of fir-tree tops; or dandelion; or the root of the great water-dock, or of burdock; scabious; ash-coloured, or green liverwort; houseleek; elder flowers; figwort; or other suitable simple; or with whey; or Scarborough water; the party taking half a drachm of flower of sulphur with each dose of it. This I have advised in some obstinate cases with

The Decoction of the Root of the great water-dock is an excellent Medicine for this Disease.

with remarkable good success. Harrogate water is also serviceable as an alterative, but probably in a less degree than sea water when aided as abovementioned. The mineral principles of Harrogate water consist almost wholly of sea salt and a small proportion of volatile sulphur. But if the disease is in a great measure inflammatory, or attended with a febricula and uncommon thirst, or with more or less of a sizziness of the blood, whatever is of a hot nature or stimulating should be avoided, or given sparingly, or combined with cooling attenuants.

As the cutaneous scurvy is most incident to the vulgar, it should seem to be occasioned chiefly by acedcent foods; and particularly by leavened wheaten bread, and heavy unfermented wheaten foods, and milk; and partly by salted and smoke-dried meat, and salted fish. Wherefore, tho' sulphur is often exceeding serviceable in this disease, yet simple acids uncombined with other suitable medicines seldom do any service, unless the eruptive disease be attended with a dissolution of the blood, or more or less of the petechial dyscrasy;

crasy ; or with a febricula joined with great thirst ; or a fizy blood. But as this cutaneous scurvy is generally more or less inflammatory, or of a hot nature, often with a costive belly, cream of tartar combined with sulphur is generally of great service therein : This composition is often improved by the addition of a very small proportion of nitre ; and I frequently add thereto a few grains of camphire, together with some crude antimony in fine powder, and a little alcalized mercury, with a view to increase its diaphoretic, and antiscorbutic powers.

WHEN young children are affected with this disease, if they cannot be easily cured, it should be suffered to take its course, or at least should not be treated with remedies that weaken the tender patient, or that may tend towards causing the peccant humour to retire from the surface of the body. A proper regimen for the nurse, if the child be at the breast, or for the child, if it be weaned, with some mild alteratives, will contribute very much to forward the cure, or hasten the spontaneous recess of this obstinate spe-

cies of the eruptive scurvy, and to preserve the teeth : For it very rarely proves fatal, under good nursing ; provided that those who have the care of such children do not persist in injudicious tampering ; such as, frequent purging with magnesia alba, which is a relaxing weakening purge, and most improper for tender young children ; a too free use of mercurials ; or of the hot medicated bath ; frequent bathing and sweating ; or rubbing all over with sulphur ointment. Some children are more or less affected with it till they have got all their first teeth, in spite of every endeavour to repress it ; and after that period it recedes spontaneously : But in that case they are apt to have carious teeth after the eruption disappears.

THE repulsion of the scorbutic itch by topical applications, particularly with the sulphur ointment, except in the circumstances abovementioned, is generally of bad consequence ; and productive of obstinate and dangerous diseases ; such as scorbutic rheumatisms both fixed and wandering ; lurking little fevers of long duration ; hypochondriac

driac affections; an anasarca; a cachexy; and some other obstinate diseases. In young children it often proves fatal, and creates the diseases mentioned in the foregoing.

Two CASES of an INTERNAL LAND-SCURVY, from the repulsion of cutaneous Eruptions.

C A S E I.

A Servant maid, aged 22, at Liverton in Cleveland, of a clean habit of body, and naturally of a good constitution, had a slight scorbutic affection of the gums, which had been of two years continuance, when, in the close of autumn, 1758, a moist herpes broke out upon her arms, which, soon after, was repelled with an ointment she procured of a woman in Staiths. In some days after that, she began to complain of an oppression, with great heat, at the stomach; which was attended with an extraordinary dryness in her mouth and throat, an insatiable thirst, and a great desire for cold water.

ter. On the ninth of April following, when she desired my advice, those symptoms were increased; her tongue was white, as if covered with the thrush in a small degree, and dry; the posterior portion of the pharynx, behind the velum pendulum, was dry, and uncommonly red; she had a paucity of saliva; the gums were eroded, and partly separated from the fangs of the teeth; her skin and muscular flesh were flaccid; she was feeble, and low spirited, and often drowsy; her pulse was smaller and weaker, but scarce quicker, than that of an healthy young adult; yet her complexion had a good aspect, being neither florid, nor pale; and the menses were regular. She had a tolerable appetite for moist foods, and lived chiefly on milk, with bread crumbled into it; for she could not swallow any dry food, by reason of the dryness of her mouth and gullet. I advised her to eat sweet oranges, and drink new churn-milk when it could be had; and to use whey, or spring water, acidulated with the juice of Seville oranges for common drink; and ordered for her the following medicine.

R. Flor. Sulph. ℥iss. Crem. Tart. ℥i. Cin-
nabar.

nabar. Antimon. Nitr. Mercur. alcalizat. aa
 ℥ij. Camph. ℥i. Tinct. Croci ℥i. Syr. Sacch.
 q. s. ut fiat elect. de quo capiat q. n. m.
 mane et vespere, quotidie; superbibendo
 succ. Nasturt. aquat. et Becabung. ℥i. This
 procedure having done her little or no ser-
 vice, probably from not persisting a sufficient
 time in it, she applied to me no more, but had
 recourse to quacks. She kept on foot, and
 did some little work till the middle of June,
 when the disease assumed the form of a ma-
 lignant nervous fever, which carried her off
 in five days. The warm bath, with the aid
 of some temperate diaphoretics, after the ex-
 hibition of suitable evacuants, would have
 been, perhaps, most serviceable in this case.

C A S E II.

A FARMER, aged 54, had been, in
 general, healthy till June 1755, when
 he became heavy, listless, and feeble, with a
 sense of oppression at the stomach, a palled
 appetite, bitter taste, and clamminess in the
 mouth, chiefly in the mornings; unusual
 thirst, and a dry skin. In July following,
 the sweats that were forced by hard work,
 dur-

during the hay-harvest, opened the pores, and relaxed the skin, and an itch-like eruption appeared thereon; upon which the aforesaid symptoms vanished, and the party became pretty alert. Towards the end of September, the eruption diminished, and those symptoms returned; and in the end of October the eruption again increased, and the party then acquired better spirits.

IN the end of January following, the eruption was much increased, then appearing in the form of the scorbutic itch, and the attendant itching was very troublesome; upon which the party, without advice, anointed himself twice, all over, with the sulphur ointment. The eruption soon after, mostly disappeared, and the abovesaid habitual scorbutic affection returned; the skin and subcutaneous fat became flaccid; and the urine scanty and high coloured; the tongue was furred; the party had a manifest febricula, with great thirst; and by the seventh day, after anointing with the abovesaid unguent he became all over anasarcaous. He was then somewhat chilly in the day time, and
the

the febricula increased at nights : He had then also a sense of fullness and great oppression at the stomach and duodenum, an intire loss of appetite, insatiable thirst, and an eager desire for cold water : His pulse was pretty full, strong, and equal when he lay in bed ; and when he sat up, or stirred a little about, it was smaller, weaker and less equal ; the white of the eyes had a yellowish tinge ; and the patient's sleeps were unfound.

THIS patient was cured chiefly by means of drastic purges. It was remarkable, in the course of the cure, that the first purgatives that were given, which were strong, and operated both by vomit and stool, occasioned a great discharge, both ways, of green, gelatinous, and somewhat fetid bile. After that humour was wholly discharged, the patient's thirst abated very much, together with the sense of load and oppression in the epigastrium ; the urine became pale and watery ; and he began to have spontaneous breathing sweats. By the 18th day of the curative procedure, a looseness came on, and flatus, which before tended

up-

upward, had now a free discharge downwards; and the yellowness of the white of the eyes disappeared. On the 26th the looseness ceased, the patient became costive, the urine was still pale and scanty, and the anasarca, which had been much reduced, began to increase. It was again reduced by resuming the drastic purges; and now the spontaneous sweating increased very much; and it was remarkable that the right side, which had the greater share of the eruption, sweated more than the left; and a great deal of water exuded from the ankles. The disease, soon after, was carried intirely off, by means of the profuse spontaneous sweats; purgatives; a decoction of the Peruvian bark; garlick; mustard; and broom ashes. But the urine continued pale and watery till the anasarca was subdued; by which it appeared that the crisis was incomplete, and that some portion of the peccant humour was still unconcocted, and retained in the habit; which was soon evinced by the attack of a lumbago and vehement sciatica, which immediately succeeded the dropsy. This critical disease was carried off
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in six weeks, by the aid of suitable remedies, and the party has continued healthy ever since.

REMARKS *on this* CASE.

THIS case exhibits an habitual scorbutic affection, or land-scurvy of the first class; which terminated, by an eruptive crisis, in one of the critical diseases comprehended in the second class of the ordinary land-scurvy. This critical eruption, on being, in a great measure, repelled, induced a general anasarca, with some degree of a jaundice, and a febricula. After the anasarca and jaundice were subdued by art, the remains of the same peccant scorbutic humour tho' still unconcocted, being in some measure susceptible of separation from the sound juices, was determined by the powers of the body to the loins and hips, where it gave rise to a lumbago and sciatica; and, being at length concocted, or attenuated, and corrected, in a great measure, it became susceptible not only of resolution, but also of being discharged by the emunctories.

IT is observed in the foregoing that the bile is generally inert and viscid in an habitual scorbutic affection, or the land-scurvy of the first class. In this case, it had acquir-

ed a gelatinous consistency; and, as so large a quantity of it was voided both by vomit and stool, 'tis probable the common biliary duct had been in a great measure obstructed thereby, so as to cause it to accumulate in the gall bladder; hence also the icteritious hue of the white of the eyes. It also appears that the patient's thirst did result, in a great measure, from that stagnant bile; which, in that state, had acquired a putrid taint.

THOSE cases are most useful in practice, that exhibit the nature, or species of the first efficient internal cause; since that will often lead us to discover the true, or chief efficient cause in cases that are more or less similar to the former; which is most conducive towards pointing out the radical cure. But such cases, if they are not uncommon, are, at present, disregarded; and those only are admired that are singular, or very extraordinary, tho', like other rare curiosities, they only amuse the fancy, and will hardly be of any service to the physician in the course of an age.

XXI. *A CASE of an INFLAMMATORY DROPSY of the KNEE; with some short REMARKS that were omitted in the foregoing ARTICLES.*

AS this disease is in a great measure different from a true white swelling of the knee, and is not described by any author that I know, the following brief narrative of a case of it may not be unacceptable. In April, 1757, a gentleman, in the parish of Skelton, aged 45, of a fresh complexion, temperate, and naturally pretty strong, was attacked with a tertian intermittent, which he suppressed with Peruvian bark, without premising any evacuation, or purging after the disease was suppressed. In the beginning of July following, he was seized with great pain, attended with uncommon heat, in the right knee. On the eighth day of the disease, when he put himself under my care, there was a considerable swelling of the affected joint, from an accumulation of synovia; with a manifest fluctuation on each side of the ligamentum patellæ: The patient
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complained of vehement pain, with great heat, in the joint; the skin was a little discoloured, and hotter than usual, but without any manifest inflammation, which was more internal; he had a quick and somewhat hard pulse, a whitish tongue, and great thirst; and the symptomatic fever, before its decrease, began to assume an hectic form.

THIS disease was cured, chiefly by repeated bleeding, which was six times performed in the space of three weeks, to the amount of six or seven ounces each time, the blood being fizy. Suitable cooling attenuant and demulcent medicines were administered; embrocations, fomentations, and epithems of like properties were applied to the affected knee; warm water was poured upon it from the spout of a tea-kettle every night and morning, for several days; and a lenient purge was given at proper intervals. In the decrease of the disease, after the fourth week, cold water was poured on the affected joint every morning for a long time: But this partial cold bathing had no observable good effect; wherefore I advised bathing in the sea, which the party performed.

formed daily, for some time, tho' the weather was somewhat cold; and he was the more encouraged so to do because he soon perceived a very good effect from this resource, which was of most signal service, and soon compleated the cure. Hence it appears that, even in local diseases, a total immersion of the body is preferable to partial bathing, even tho' the latter be aided by the fall of the water from some height. The cold sea-water bath is also the best remedy I have yet experienced for the true white swelling of the knee, tho' it very seldom makes a compleat cure of this very obstinate disease.

S E C T. II.

THE defluxion which usually occasions the dysury, doth sometimes give rise to a strangury, or an ischury; not only from a spasmodic contraction, in consequence of irritation, but sometimes from an over-repletion and distention of the capillary vessels. When the last mentioned cause takes place in the vessels chiefly of the inward coat of the neck of the bladder and inward extremity of the urinary passage, so as to create an ischury,

ry, the introduction of an oiled bougie, if done soon, gives immediate relief, by compressing the turgid vessels, and repelling, or urging forward their contained fluid, upon which the urine comes freely away; and after the bladder is emptied those vessels commonly recover their former tone, and the cure of this disease is at once effected.

BUT when this cause, or an over-repletion of the capillaries, takes place in the kidneys, so as to give rise to a spurious ischury, the cure is soon accomplished by drawing a suitable quantity of blood from the arm, and injecting a laxative glyster: And sometimes both venesection and a glyster are necessary in the former case, in which the seat of the disease is in the neck of the bladder, and urinary passage; especially when the bougie has not been timely introduced.

IN both cases, subastringent acids, blended with some mild aperient liquid, such as an infusion of pellitory of the wall, or mugwort, are serviceable; by condensing the rarified blood, and bracing the relaxed and distended vessels, and thus taking away the
im-

immediate causes of the disease; notwithstanding acids are generally deemed hurtful in obstructions of the urine.

Between Small Doses, and dulcified Spirit of nitre in Small Doses well diluted are also

IT is observable that persons who have either the uriniferous vessels, or the coats of the urinary passages relaxed and weakened, in consequence of defluxions or rheums on those parts, or of small stones, or gravel, or the venereal disease, or a too free use of mercurials, purgatives and diuretics, are more subject either to a strangury, or an ischury, from the aforesaid immediate cause, after drinking much ale, which is a soft relaxing liquid, or even brandy and water, than after drinking red port-wine, or weak punch acidulated with the juice of Seville oranges, or lemons.

exceeding proper in this case, particularly when the seat of the Disease is in the Kidneys.

IN an ischury, whether true or spurious, if it proceeds from the aforesaid immediate cause, and the blood is not fizy, the half warm bath will be quite improper, and will not fail to increase the obstinacy and danger of the disease; notwithstanding this remedy is generally much insisted on in such cases.

SOMETIMES, however, a warm stimulating diuretic is necessary, after due evacuation,

tion, particularly when the cause of the ischury is seated in the kidneys, and springs from a rheumatic humour. The best diuretics in this case are chiefly the following ; viz. Roots of garlick, and squill ; oil of turpentine ; spirit of juniper ; the dulcified spirit of nitre. In this case also a large vesicatory applied on the loins, or superior portion of the thigh, is of signal service ; the body being kept soluble.

I have often observed that the vermifuge mixture mentioned in the foregoing, and whose properties are recited in a former publication, is of the greatest service to children who are stuffed in their breasts, and affected with a cough. I have observed in the foregoing that mild emetics, in small doses, and laxatives consisting chiefly of rhubarb, repeated occasionally, are of singular service in many cases of the kink-cough in young children. Both these intentions are exceedingly well answered by the abovesaid vermifuge mixture, which I have lately administered in the first stage of some cases of a mild kink-cough with observable good success. The dose is from one tea spoonful to three for children betwixt

twixt seven months and five years of age. It should generally be given in a sufficient dose to operate a little upward.

CHIRURGICAL OBSERVATIONS.

SECT. I.

THOMAS Appleton, at Cargoe-fleet, in Cleveland, aged 33, was attacked with a pleurisy in the right side, in June 1764, sometime after having received a hurt in that side by falling from a horse. Tho' he was copiously blooded, an empyema formed in the affected side; for which I proposed the operation; but the patient would not submit to it till the beginning of September following, when he was exceedingly reduced by a continual hectic fever; and in the utmost danger of suffocation from the pressure of the matter on the left lung. Notwithstanding his great weakness, as the operation was the only resource that could give him any chance for recovery, it was performed. A quick motion of the chest to either side occasioned a quashing of the matter, which seemed to reach no lower than

the seventh rib, reckoning from above; and which indicated the proper place for making the perforation. I made the outward incision, by pinching the skin, between the sixth and seventh ribs, an inch and half in length, and the internal wound, thro' the intercostal muscles and pleura, about an inch in length. Above four pounds of a smooth uniform white unfetid pus, of the consistency of new cream, was instantly discharged. Next morning a pound more was drawn off; and for a month after, the discharge amounted to about half a pound a day; and to about four ounces daily for five months after that. But the patient, tho' he had a pretty good appetite, which enabled him to support the discharge, never shewed any signs of recovery till September following, after the pus had obtained a free passage into the bronchia, and was discharged mostly by expectoration.

It appeared, in this case, that the ingress of the air, by the wound, in the act of inspiration, at each dressing, did very much retard the cure; by keeping the right lung continually collapsed; and consequently preventing its adhesion to the pleura; exclusive
of

of the bad effects which resulted from half of the lungs being collapsed and useless. Hence proceeded the anasarca, which, tho' it was not very considerable, continued throughout the year. It was remarkable that the points of the fingers and toes remained a long time tumefied, after the anasarca had disappeared in all the other parts of the body. The lung of the affected side was so much collapsed, that it seemed, on introducing a probe, to be an inch and half distant from the pleura: Yet the patient had no remarkable dyspnœa; the pulse was always free and equal; tho' it was a little quicker than is natural, either from some small degree of a purulent fever, or because the blood, being wholly transmitted thro' the left lung, must have passed with greater velocity, than when it had a free passage thro' both.

The aperture which had been formed into the bronchia, probably from the bursting of an impostume in the collapsed lung, was so open, that, on injecting a tea cupful of warm sea water by the external wound, the patient turning immediately after, in a horizontal attitude, on the opposite side, the

the sea water came up by mouthfuls till it was wholly expectorated. As soon as the inward aperture was formed, the discharge by the wound decreased considerably, without any bad consequence; a quill charged with a projecting wooden pin was not introduced as usual, to draw off the pus; the small quantity that was discharged made its exit without admitting the external air; and the patient, from that time, recovered apace. This patient could not bear to have a canula continually in the wound, which was kept open with a firm tent of fine tow; and a quill was introduced occasionally to draw off the pus, whose egress, without that resource, was prevented by spongy flesh at the inward extremity of the aperture.

W H E N a partial inflammation of the pleura occasions an adhesion of the contiguous portion of the lung to the affected part, and if, in that case, a suppuration ensues, the matter, I suppose, generally either makes its way outwards, thro' the intercostal muscles, and accumulates under the integuments till it forms a manifest tumor; or it gains admission into the bronchia; and, in either case, the cure is generally soon accomplished:

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Because the air cannot, either by the outward incision, or by the bronchia, gain admission into the cavity of the affected side, beyond the adhesion; which therefore will prevent the whole lung of that side from being collapsed; and the adhesion of the lung to the pleura in the seat of the impostume will easily be formed, which will accelerate the cure. Besides, it often happens, that, after opening the outward tumor, the matter makes its egress without admitting the external air into the cavity of the thorax. In this case, then, the patient soon recovers, provided the opening of the tumor has not been postponed too long; for when it is, the pus, by its weight and acrimony, is apt to form sinuses: But these sinuses, if they are on the outside of the ribs, are easily cured by laying them open. The cure of this species of the empyema will be more certain and speedy, if the pus has not only a free passage outwards by the artificial opening, but also into the bronchia, as in the following case.

A weaver in Guisbro', aged about 40, was greatly emaciated, and, to appearance, in the last stage of a consumption, when a
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tumor arose in his right side, close under the breast. On being opened, it discharged only about a pound of pus; after that, there was very little matter expectorated, it being mostly discharged by the wound, and the cough, which before was troublesome, almost quite ceased. The bag of the impostume was deterged with a mild suitable injection; the hectic fever ceased, and the patient recovered in the space of a month. It was obvious, in this case, by the patient's having coughed up some of the injection, that there was a perforation into the bronchia; and, as the cure was so speedily accomplished, there was, no doubt, an adhesion of the lung to the pleura in the circumference of the impostume.

BUT I am inclined to believe that, for the most part, when the pus makes its way outwards between the ribs, it is formed between the pleura and the ribs, and intercostal muscles; wherefore, it may be the result of a spurious pleurisy, and may properly enough be termed a spurious empyema.

S E C T.

S E C T. II.

IT is objected to Mr Cheselden's method of cutting for the stone, that the staff, being held by an assistant, cannot be made to correspond so well with the edge of the knife, as when it is held by the operator. This operation was performed, in the following manner, on Mr Appleton, of Hilton in Cleveland, aged 64, in October 1763. Thirteen stones were extracted, four of which were of the size of a large nutmeg each; and the patient recovered. After making the external wound, a passage was made for the knife, with the forefinger of the right hand, thro' the cellular membrane, to the neck of the bladder; and the scalpel was introduced on the same finger, with its edge upwards; then the operator, taking hold of the staff with his left hand, and properly adapting it to the edge of the knife, cut thro' the left side of the prostate gland, and carried the incision outward, by the direction of the catheter, to the membranous part of the urethra. It was found quite unnecessary to press down the rectum with the forefinger of the left hand, as Mr Sharp directs; it being impossible to wound
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the rectum in making the internal incision in this manner ; wherefore the operator was at liberty to hold the staff with his left hand ; which removes the abovesaid objection to Mr Cheselden's lateral operation.

IN making the outward incision, a large artery (a branch of the pudicæ externæ) was opened, which bled with great vehemence. An artery forceps would have been of service in this case, both by preventing a too great loss of blood, and by directing the operator in taking up the artery. However, a pretty copious hamorrhage, from the wound, is most conducive towards preventing an inflammation of the bladder and bowels ; which generally happens in those who die after the operation. This operation was protracted to a greater length than usual ; not only by the extraction of so many stones, partly with the forceps, and partly with the scoop, but also by the difficulty the operator met with in taking up the abovesaid artery.

Next day after the operation the scrotum was livid, and the pulse small, soft, and weak:

weak: But a timely exhibition of the peruvian bark internally, and of the tincture of it upon the scrotum, prevented any bad consequence. On the ninth day, a profuse discharge of ropy mucus from the bladder commenced; but it ceased in a few days on taking an ounce and half of uva ursi in powder.

I am inclined to believe that when an incurable fistula, which transmits the urine, is the consequence of the operation, it is occasioned by the sides of the urethra uniting, most commonly, I suppose, in the membranous part, but chiefly when it is much torn, as it is usually in the great apparatus. Wherefore 'tis most probable that such a fistula may always be prevented, if the external wound be sufficiently large, by introducing a bougie into the urethra, once or twice a day, till the urine begins to come pretty freely the natural way. This was practised in the above mentioned patient's case; and, as it did not occur to me so to do till the third day after the operation, on first introducing the bougie, a manifest obstruction was perceptible when it

had reached the wound; but after surmounting that difficulty it was afterwards always easily introduced.

S E C T. III.

THE following manner of extracting the stone in women, is, I presume, an improvement on the usual method; it being so much the better the fewer instruments that are used in the performance of an operation. A stone weighing three ounces and six drams was extracted from Mrs Curry, aged 75, nigh Stoxsley in Cleveland, in August 1765, in the following easy and simple manner. The operator having dispensed with the use of the grooved catheter, and gorget, introduced the forefinger of his right hand into the urethra, and after dilating it sufficiently, he introduced the forceps with great facility, and having got a favourable hold of the stone, which was of an oval form, it was quickly extracted. The party is at present healthy, and retains her urine very well. A gentlewoman residing at Scarborough, aged 26, underwent the same operation in April the same year; and had no incontinency of urine after the fourteenth day.

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IN introducing the finger into the urethra, its outward verge always suffers a small laceration; but the wound heals as speedily as one that is cut; and I deem it preferable to cutting, not only by reason it is more simple and speedy, but also because the laceration extends only as far as the resistance is considerable; which is only at the outward border of the urethra; within that, the resistance is considerably less, and still less at the neck of the bladder, which is always previously much dilated by the stone often lodging partly therein: But when the knife is used, there is generally more substance divided than is necessary; and the vagina is sometimes wounded. By this method the extraction of the stone in women is performed with as much facility quickness and safety as almost any operation in surgery.

S E C T. IV.

'TIS well known that when the extremity of the third bone of a finger or thumb becomes carious from a deep-seated whitlow, the carious portion always exfoliates, in due time, under proper management,
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after which the wound is speedily healed. But when the base of the third bone becomes carious, which happens most commonly in the thumb, it is usual to amputate the joint. It is not, I think, generally known, or mentioned by any author that I know, that, in such a case, the best method is to cut out the bone; by which procedure the point of the thumb, or finger so affected, and the nail are preserved entire; and tho' the fleshy body of the joint is necessarily shortened, yet it becomes as useful nearly as it was in its former natural state; and occasions very little deformity: And when the head of the adjoining bone is found, the cure is soon accomplished, after cutting out the carious bone. I have seen many instances of the great advantage of this operation: It is, indeed, more painful than amputation; but this objection is trivial in comparison with the advantages derived to the patient by preserving the nail and point of the thumb. The incision should be made in a right line with the side of the nail, so as to penetrate a little above
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the artery, and that the point of the thumb or finger may be kept as intire as possible. This operation succeeds best, and is more easily performed, when the joint is pretty much swelled to the point of the thumb, and the periosteum is partly separated from the bone. Sometimes the body of the third bone of the thumb, when carious, separates spontaneously from the epiphyse, in which case the point of the thumb is preserved intire, together with the use of the joint.

S E C T V.

EVERY experienced surgeon must have observed that the interrupted future is rarely of any service in large wounds; especially if complicated with more or less of contusion. The thread generally cuts thro' the portion of the skin that is contained within the ligature, soon after the suppuration commences; and the inflammation and consequent suppuration of the lips of the wound are much increased by the wounds made by the cutting sides of the crooked needle, and by the irritation occasioned by the threads. Besides, an additional deformity insues from
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the scars made by the lacerated wounds occasioned by the threads cutting through the skin. Wherefore I have not, for some years past, made any use of crooked needles, except in taking up of large arteries; and, in lieu of the abovesaid future, have practised the twisted future; whose good effects I have often experienced, tho' performed with common brass pins, in large wounds, and even in such as were lacerate and in a great measure contused. By means of this future the lips of the wound are more closely and firmly held together than by the interrupted future; the pins rarely cut thro' their hold in the skin before the lips of the wound are firmly united, so as to render any farther use of them unnecessary, because they occasion a much less degree of irritation and inflammation than the interrupted future; and, when they cut thro' the hold, the cicatrix of the wounds thus made is hardly perceptible; for they occasion little or no additional suppuration. They very much hasten the cure of large wounds with contusion, which will not admit of the interrupted thread-future; but
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when the contusion is considerable, some portion of the most depending part of the wound should be left open; and if the inflammation, consequent on such a contusion, should be very great, the pins may be withdrawn on the fourth or fifth day; after which the lips of the wound will recede much less than they would have done if the twisted suture had not been employed; and, after the wound is pretty well deterged, and the inflammation abated, the pins may again be introduced, if the skin be sufficiently relaxed so to admit of them. It is also remarkable that the pins give much less pain on being introduced, and, if pretty sharp and rather small, they pierce the skin with more facility than a large crooked needle with three cutting sides. Pins made of steel or tempered iron, silvered or gilded over; from three quarters of an inch to one inch and one fourth in length, would no doubt, be far preferable to the common brass pins.

S E C T. VI.

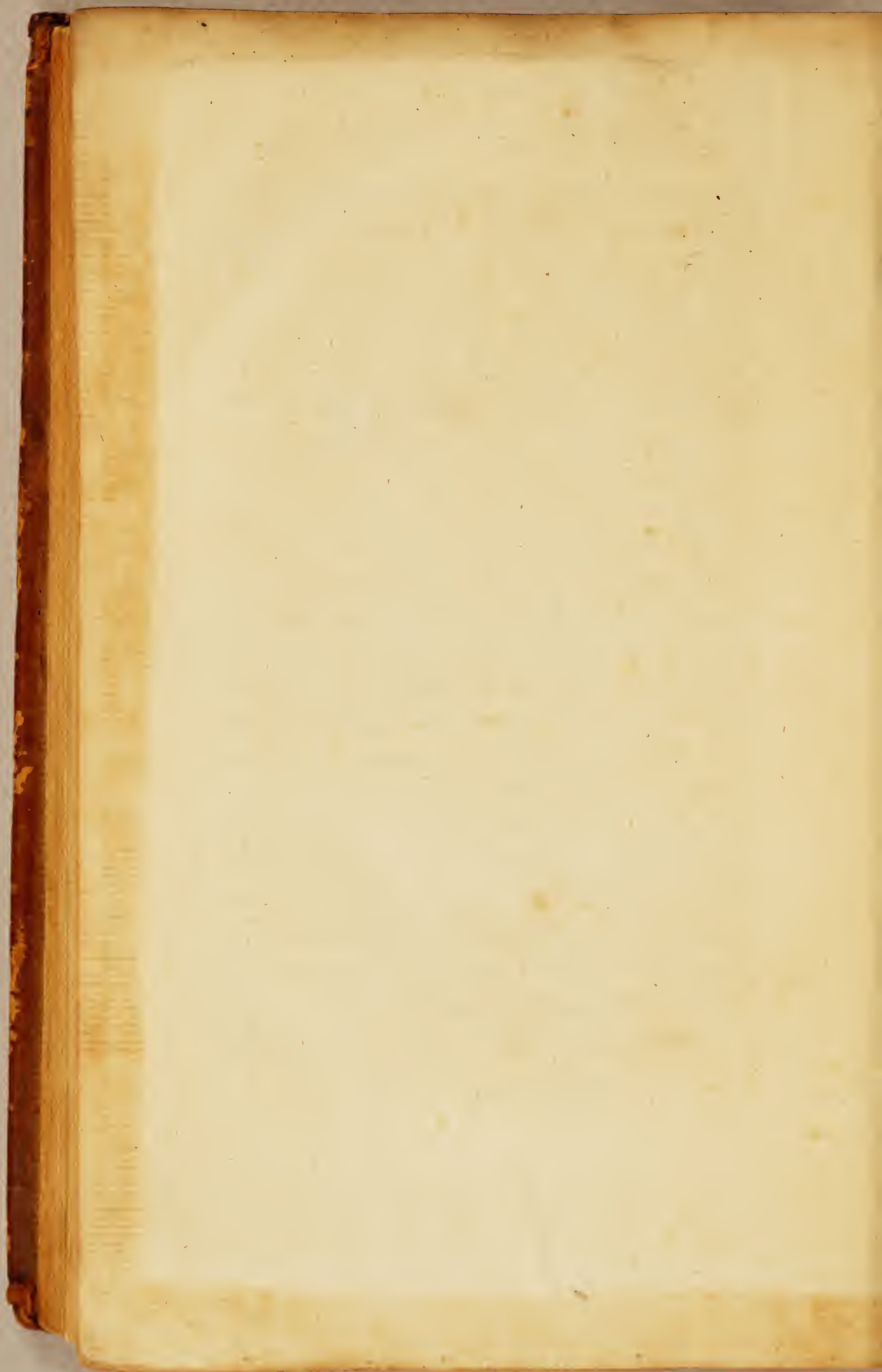
THE fuz-ball, I'm inclined to believe, is the most powerful styptic yet known: It
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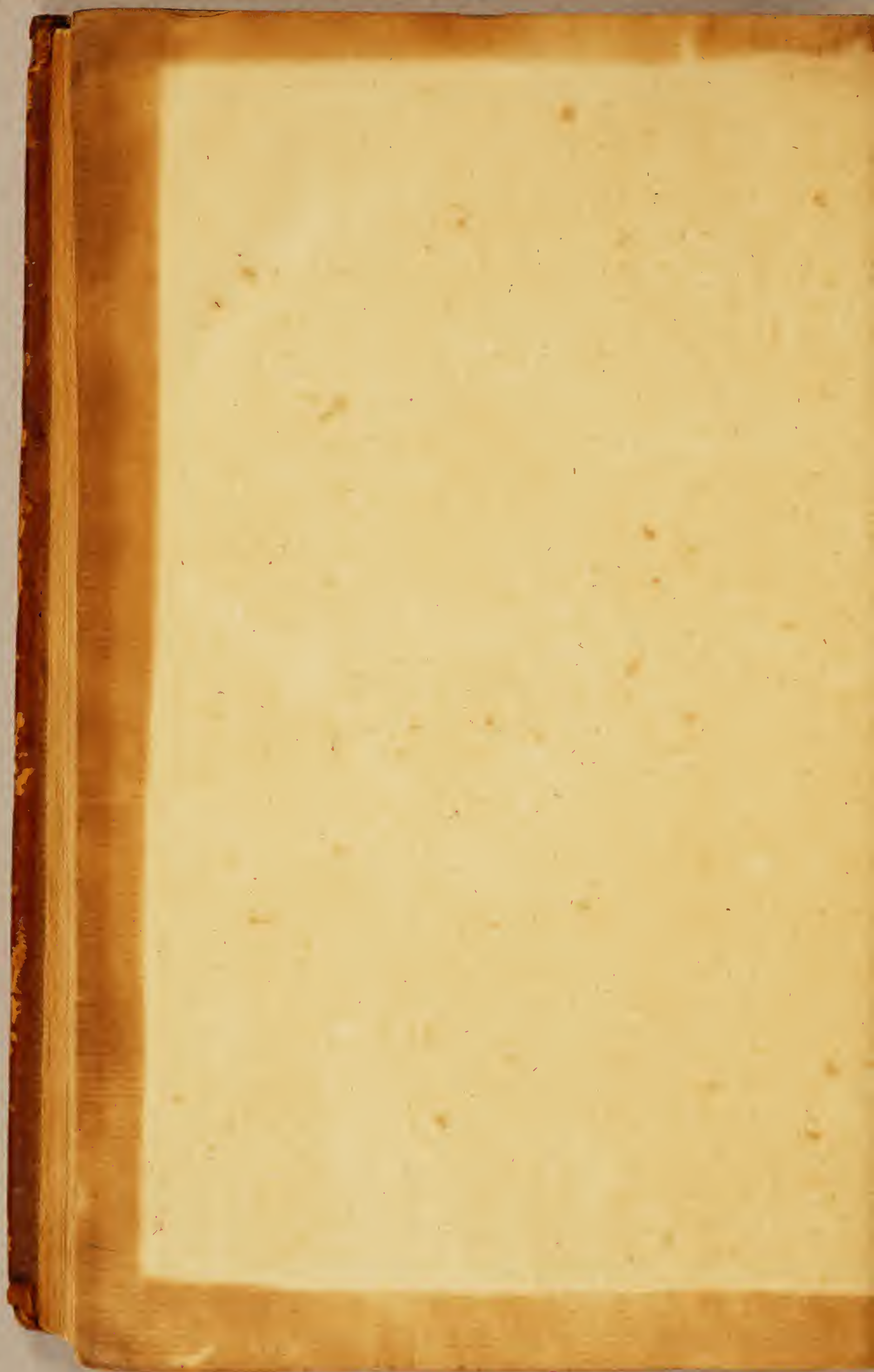
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hath, in many instances, within the course of my observation, restrained hemorrhages from large arteries, with the aid of only a moderate compression. Mr Morand (Memoires de l'Academie Royale de chirurgie Tom 2 pag. 230) supposes that the agaric of the oak produces its effect by imbibing the serum of the blood, and none of the red blood, which occasions the blood in the extremity of the artery to coagulate sooner, so as to form a plug which stops the hemorrhage. Now the fungous substance of the fuz-ball possesses this property in a greater degree than the agaric; and, besides, by applying as close as possible, and adhering to the mouth of the vessel and adjoining parts, it intirely prevents the egress of the blood, with a moderate compression, or with no more than is usually made by a common bandage. A sufficient quantity of the fungous part of the fuz-ball should be applied on the orifice of the vessel, the skin of the fungus should be laid over that, and the dressing compleated with compresses, and a roller, in the usual manner.

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